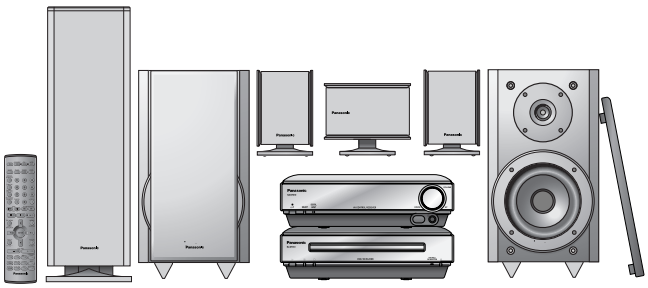
DVD System

Operating Instructions

Model No. **SC-DT310**



The illustration shows the model for the United Kingdom,Continental Europe and Russia.

Panasonic®

Region number supported by this player

Region numbers are allocated to DVD players and software according to where they are sold.

For the United Kingdom and Continental Europe

- The region number of this player is **"2"**.
- The player will play DVD-Video marked with labels containing **"2"** or **"ALL"**.

Example:

For Southeast Asia

- The region number of this player is **"3"**.
- The player will play DVD-Video marked with labels containing **"3"** or **"ALL"**.

Example:

For Australia and N.Z.

- The region number of this player is **"4"**.
- The player will play DVD-Video marked with labels containing **"4"** or **"ALL"**.

Example:

For Russia

- The region number of this player is **"5"**.
- The player will play DVD-Video marked with labels containing **"5"** or **"ALL"**.

Example:

Note:

"EB" on the packaging indicates the United Kingdom.

Before connecting, operating or adjusting this product, please read these instructions completely.
Please keep this manual for future reference.

EB E GN GCS EE

RQT6924-B

Dear customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

Unless otherwise indicated, illustrations in these operating instructions are of the system for the United Kingdom, Continental Europe and Russia.

System	SC-DT310
DVD/CD player	SL-DT310
AV control receiver	SA-DT310
Front speakers	SB-PF310
Center speaker	SB-PC310
Surround speakers	SB-PS310
Subwoofer	SB-W310

CAUTION!
**THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF.
REFER SERVICING TO QUALIFIED PERSONNEL.**

WARNING:
TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

CAUTION!
- **DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.**
- **DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.**
- **DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.**
- **DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.**

This product may receive radio interference caused by mobile telephones during use. If such interference is apparent, please increase separation between the product and the mobile telephone.

For Southeast Asia

THIS UNIT IS INTENDED FOR USE IN TROPICAL CLIMATES.

For others

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

AV control receiver (SA-DT310)

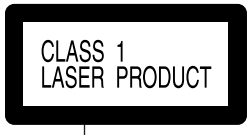
Marking sign is located on bottom of the unit.

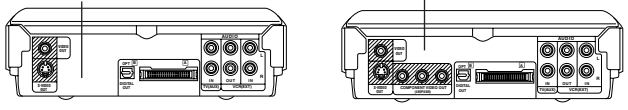
For the United Kingdom, Continental Europe and Russia

LUOKAN 1 LASERLAITE

KLASS 1 LASER APPARAT

For others





(Back of product)

CAUTION	- LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR / Class II
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. IEC60825-1 / Class 3b
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	- AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	- SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
注 意	- 打开时有可见及不可见激光辐射。避免激光束照射。
注 意	- ここを開くと可視及び不可視レーザー光が出ます。ビームを見たり、触れたりしないでください。 RQLS0275

(Inside of product)
(Tuotteen sisällä)
(Produktets innside)

SUOMI

VAROITUS!
LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VAROITUS:
TULIPALO-, SÄHKÖISKUVAARAN TAI TUOTETTA KOHTAAVAN MUUN VAHINGON VÄHENTÄMISEKSI EI LAITETTA SAA ALTISTAA SATEELLE, KOSTEUDELLE, VESIPISAROILLE TAI ROISKEELLE, EIKÄ NESTETTÄ SISÄLTÄVIÄ ESINEITÄ, KUTEN ESIMERKIKSI MALJAKOITA, SAA ASETTAA LAITTEEN PÄÄLLE.

VAROITUS!
- **ÄLÄ ASENNA TAI LAITA TÄTÄ LAITETTA KABINETTITYYPPISEEN KIRJAKAAPPIIN TAI MUUHUN SULJETTUUN TILAAN, JOTTA TUULETUS ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN MUU MATERIAALI EI HUONONNA TUULETUSTA, JOTTA VÄLTETTÄISIIN YLIKUUMENEMISESTA JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.**
- **ÄLÄ PEITÄ LAITTEEN TUULETUSAUKKOJA SANOMALEHDELLÄ, PÖYTÄLIINALLA, VERHOLLA TAI MUULLA VASTAAVALLA ESINEELLÄ.**
- **ÄLÄ ASETA PALAVAA KYNTTILÄÄ TAI MUUTA AVOTULEN LÄHDETTÄ LAITTEEN PÄÄLLE.**
- **HÄVITÄ PARISTOT LUONTOA VAHINGOITTAMATTOMALLA TAVALLA.**

TÄMÄ LAITE ON TARKOITETTU KÄYTETTÄVÄKSI LEUDOSSA ILMASTOSSA.

NORSK

ADVARSEL!
**DETTE PRODUKTET ANVENDER EN LASER.
BETJENING AV KONTROLLER, JUSTERINGER ELLER ANDRE INNGREP ENN DE SOM ER BESKREVET I DENNE BRUKSANVISNING, KAN FØRE TIL FARLIG BESTRÅLING.
DEKSLER MÅ IKKE ÅPNES, OG FORSØK ALDRI Å REPARERE APPARATET PÅ EGENHÅND. ALT SERVICE OG REPARASJONSARBEID MÅ UTFØRES AV KVALIFISERT PERSONELL.**

ADVARSEL:
FOR Å REDUSERE FAREN FOR BRANN, ELEKTRISK STØT ELLER SKADER PÅ PRODUKTET, MÅ DETTE APPARATET IKKE UTSETTES FOR REGN, FUKTIGHET, VANNDRÅPER ELLER VANNSPRUT. DET MÅ HELLER IKKE PLASSERES GJENSTANDER FYLT MED VANN, SLIK SOM BLOMSTERVASER, OPPÅ APPARATET.

ADVARSEL!
- **APPARATET MÅ IKKE PLASSERES I EN BOKHYLLE, ET INNEBYGGET KABINETT ELLER ET ANNET LUKKET STED HVOR VENTILASJONSFORHOLDENE ER UTILSTREKKELIGE. SØRG FOR AT GARDINER ELLER LIGNENDE IKKE FORVERRER VENTILASJONSFORHOLDENE, SÅ RISIKO FOR ELEKTRISK SJOKK ELLER BRANN FORÅRSAKET AV OVERHETING UNNGÅS.**
- **APPARATETS VENTILASJONSÅPNINGER MÅ IKKE DEKKES TIL MED AVISER, BORDDUKER, GARDINER OG LIGNENDE.**
- **PLASSER IKKE ÅPEN ILD, SLIK SOM LEVENDE LYS, OPPÅ APPARATET.**
- **BRUKTE BATTERIER MÅ KASSERES UTEN FARE FOR MILJØET.**

DETTE APPARATET ER BEREGNET TIL BRUK UNDER MODERATE KLIMAFORHOLD.

Accessories

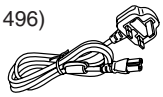
Please check and identify the supplied accessories. Use numbers indicated in parentheses when asking for replacement parts.

☐ **1 Remote control**
(For the United Kingdom, Continental Europe and Russia : EUR7623010)
(For others: EUR7623020)

☐ **2 Batteries**
for remote control

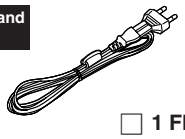
☐ **1 AC mains lead**

For the United Kingdom
(REZ1496)

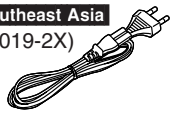


For Australia and N.Z.
(RJA0035-2X)

For Continental Europe and Russia
(REZ1495)



For Southeast Asia
(RJA0019-2X)



☐ **1 AM loop antenna**
(N1DAAAA00003)

☐ **1 FM indoor antenna**
(RSA0007)

☐ **1 Video cable**

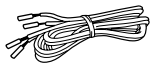
For the United Kingdom and Continental Europe
(VJA0815-A)

For others
(RJL1P019B15)

☐ **1 Optical cable**
(RJL1X008B05)

☐ (Included in speaker packing box)
2 Front Speaker cables
(4 wires, 4 m) (REE1245)

1 Center Speaker cable and 1 Subwoofer cable
(2 wires, 4 m) (REE1203A)



2 Surround Speaker cables
(2 wires, 10 m) (REE1203C)

☐ **1 Sheet of speaker-cable stickers**

For the United Kingdom only

☐ **1 Antenna plug adaptor** (SJP9009)

For the United Kingdom, Continental Europe and Russia

☐ **1 RCAJ adaptor** (K1JZ24D00002)

Note

The included AC mains lead is for use with this unit only. Do not use it with other equipment.

For th United Kingdom and Republic of Ireland

shop@ **Panasonic**

www.panasonic.co.uk (for UK customers only)

- Order accessory and consumable items for your product with ease and confidence by telephoning our Customer Care Centre Mon–Friday 9:00am–5:30pm. (Excluding public holidays.)
- Or go on line through our Internet Accessory ordering application.
- Most major credit and debit cards accepted.
- All enquiries transactions and distribution facilities are provided directly by Panasonic UK Ltd.
- It couldn't be simpler!

Customer Care Centre

For UK customers: 08705 357357
For Republic of Ireland customers: 01 289 8333

Technical Support

For UK customers: 0870 1 505610

This Technical Support Hot Line number is for Panasonic PC software related products only.

For Republic of Ireland, please use the Customer Care Centre number listed above for all enquiries.

For all other product related enquiries, please use the Customer Care Centre numbers listed above.

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(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ⓚ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral, Brown: Live.
As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

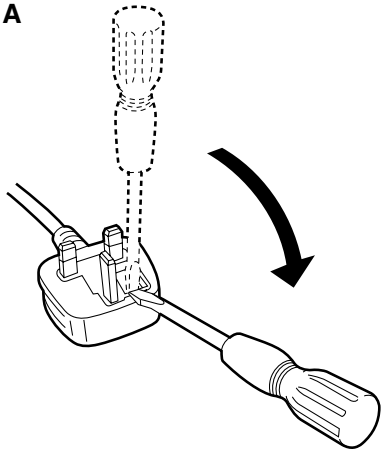
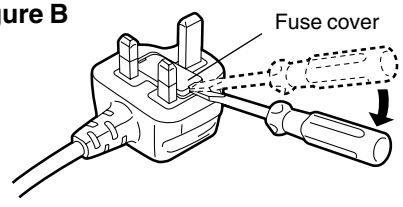


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

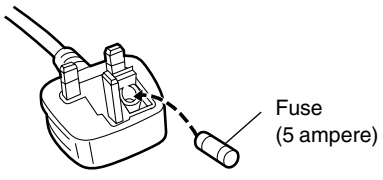
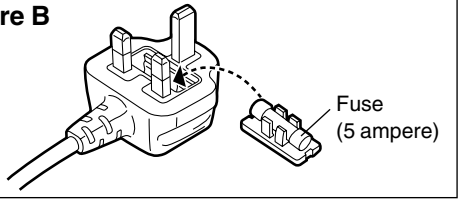


Figure B



■ Discs that can be played

Disc type	Logo	Indication used in instructions
DVD-RAM	DVD RAM RAM4.7	RAM
DVD-Audio	DVD AUDIO	DVD-A
DVD-Video	DVD VIDEO DVD VIDEO	DVD-V
DVD-R	DVD R R4.7	
Video CD	COMPACT disc DIGITAL VIDEO	VCD
CD	COMPACT disc DIGITAL AUDIO COMPACT disc DIGITAL AUDIO TEXT	CD Including CD text
CD-R/RW	—	WMA MP3 JPEG

- Use discs with the above logos and that conform to specifications. The unit cannot play other discs correctly.
- Do not use irregularly shaped discs (e.g. heart-shaped), as these can damage the unit.

■ Discs that cannot be played

DVD-ROM, CD-ROM, CDV, CD-G, +RW, DVD-RW, CVD, SVCD, SACD, Divx Video Discs and Photo CD.

■ Disc structure

Disc structure and the labels given to the items on discs depend on the disc type.

Track: the smallest division on DVD-Audio, CDs and Video CDs, or a single WMA/MP3 file.
Chapter: the smallest division on DVD-Video.
Group: collections of tracks on DVD-Audio and equivalent to folders or albums on data discs.
Title: the largest division on DVD-Video, usually an entire movie.
Program: the division on DVD-RAM equivalent to a single recording.
Picture: a single JPEG file.
Play list: the largest grouping on a HighMAT disc, or a group of scenes on DVD-RAM.
Scene: DVD-RAM program sections specified and grouped into play lists on a DVD video recorder.
Content: covers tracks and pictures on HighMAT discs.

Playing DVDs and Video CDs

The producer of these discs can control how they are played so you may not always be able to control play as described in these operating instructions (for example if the play time is not displayed or if a Video CD has menus).
Read the disc's instructions carefully.

■ CD-R and CD-RW discs

This unit can play CD-R/RW (audio recording disc) recorded with CD-DA, video CD, WMA, MP3, or JPEG. Finalize※ the disc after recording.

See page 20 for more information about WMA, MP3, and JPEG.

■ DVD-R discs

Panasonic DVD-R recorded and finalized※ on a Panasonic DVD video recorder are played as DVD-Video on this unit.

※A process that allows play on compatible equipment.

■ DVD-RAM discs

DVD-RAM discs must meet the following conditions for this unit to be able to play them.

Type	●Non-cartridge discs ●Discs that can be removed from their cartridges (TYPE 2 and 4)
Capacity	●12 cm 9.4 GB (double-sided) and 4.7 GB (single-sided) ●8 cm 2.8 GB (double-sided)
Recording format	Discs recorded with DVD video recorders, DVD video cameras, personal computers, etc., using Version 1.1 of the Video Recording Format (a unified video recording standard).

- Remove TYPE 2 and 4 discs from their cartridges before use, then return them when you are finished. Read the instructions for the disc carefully.
- Do not allow the disc to become dirty or scratched. Store discs in their cartridges and ensure the disc label and cartridge label face the same way.
- Some parts of the disc, for example where one program ends and another begins, may not play smoothly.

Note

It may not be possible to play CD-R, CD-RW, DVD-R and DVD-RAM in all cases due to the type of disc or condition of the recording.

■ Video systems

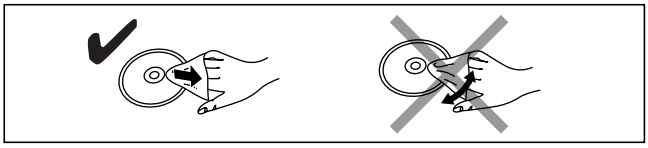
This unit can play both the PAL and NTSC video systems. To view PAL or NTSC, however, your television must match the system used on the disc.
PAL discs cannot be correctly viewed on an NTSC television. NTSC can be correctly viewed on a PAL television by converting the video signal to PAL 60 (➡ page 31, Video—NTSC Disc Output).

■ HighMAT discs

This unit is compatible with HighMAT discs containing WMA, MP3, and/or JPEG files.

■ To clean discs

DVD-Audio, DVD-Video, Video CD, CD
Wipe with a damp cloth and then wipe dry.



DVD-RAM, DVD-R

- Clean with an optional DVD-RAM/PD disc cleaner (LF-K200DCA1, where available).
- Never use cloths or cleaners for CDs etc.

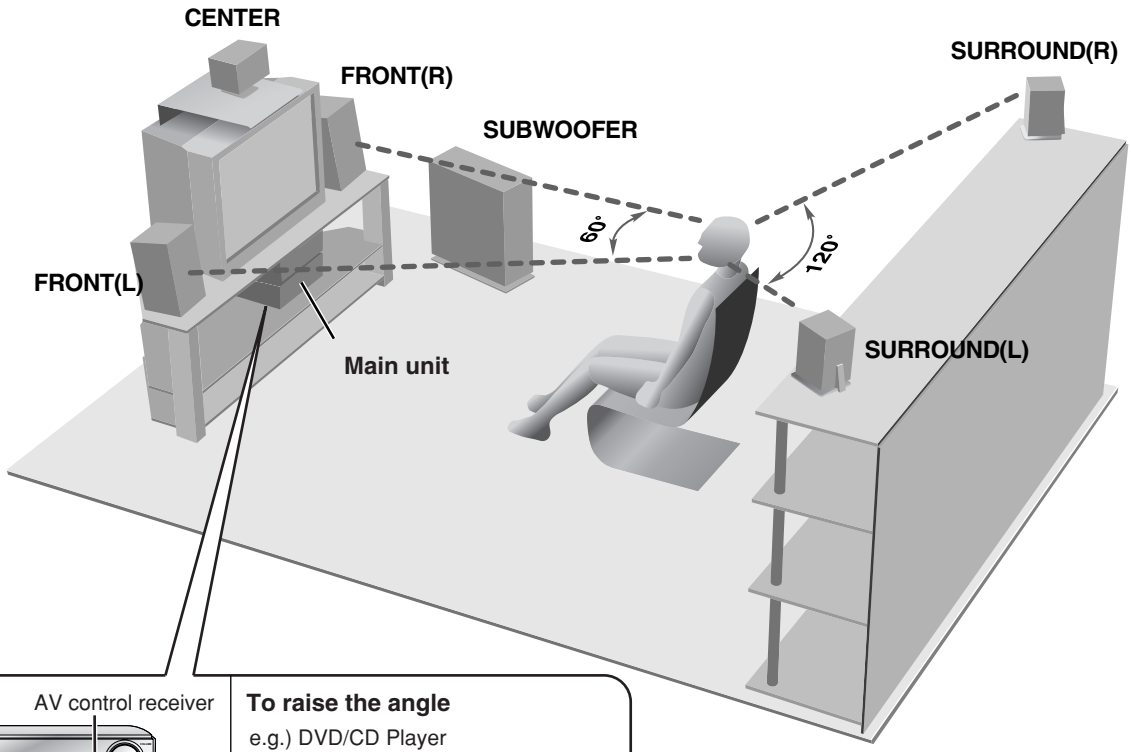
■ Handling precautions

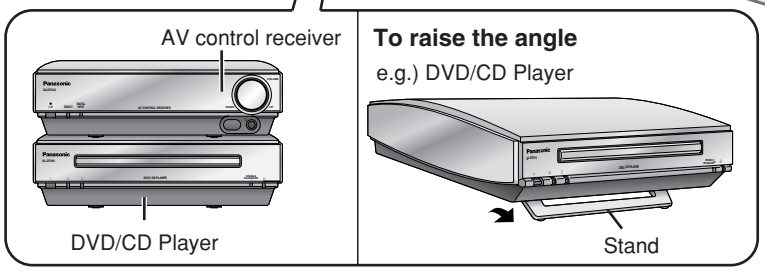
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not attach labels or stickers to discs. (Do not use discs with exposed adhesive from tape or left over peeled-off stickers.)
- Do not use scratch-proof protectors or covers.
- Do not use discs printed with label printers available on the market.

Simple setup

Plug in the AC mains lead after making all connections.

STEP 1 Locating





The size of the front speakers and surround speakers are the same respectively.

Note

- Do not use the stand to carry the unit.
- Do not apply force down upon the unit while using the stand.
- Do not place anything on top of the AV control receiver.

•Use only supplied speakers

Using other speakers can damage the unit and sound quality will be negatively affected.

- Set the speakers up on an even surface to prevent them from falling. Take proper precautions to prevent the speakers from falling if you cannot set them up on an even surface.
- Place the front, center, and surround speakers at approximately the same distance from the seating position. The angles in the diagram are approximate.

Positioning for best effect

How you set up your speakers can affect the bass and the sound field. Note the following points.

- Place speakers on flat secure bases.
- Placing speakers too close to floors, walls, and corners can result in excessive bass. Cover walls and windows with thick curtain.

Main unit

Keep your speakers at least 10 mm away from the system for proper ventilation.

Center speaker

- You can also put this speaker directly under the television.
- Vibration caused by the center speaker can disrupt the picture if it is placed directly on the television. Put the center speaker on a rack or shelf.

Subwoofer

Place to the right of the television, on the floor or a sturdy shelf so that it won't cause vibration.
Leave 10 cm on the right for the woofer to be effective. Leave 10 cm at the rear for ventilation.

STEP 2 Speakers

2 Speaker cables (4 wires, 4 m)
2 Speaker cables (2 wires, 4 m)
2 Speaker cables (2 wires, 10 m)

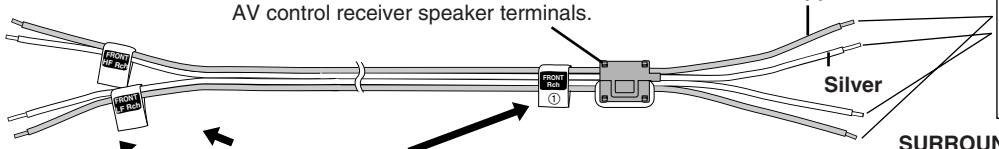
Sheet of speaker-cable stickers

❶ Attach the stickers to the speaker cables.

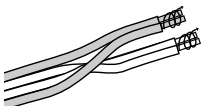
Attach the speaker-cable stickers to make connection easier.

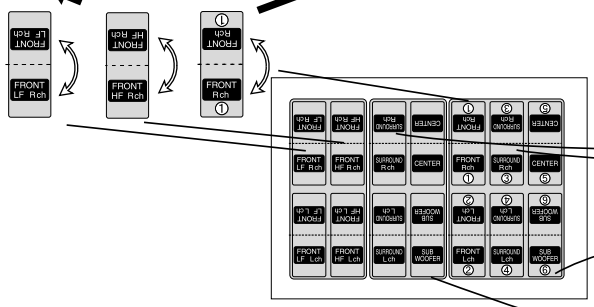
A noise filter comes attached with the speaker cables to prevent undue influence to other equipment. Do not remove the noise filter from the speaker cable.
Connect the noise filter side of the speaker cables to the AV control receiver speaker terminals.

FRONT L, R (4 m)
e.g.) FRONT R



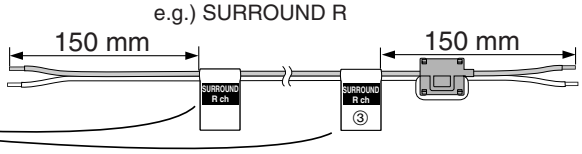
Twist the same colored wires together.



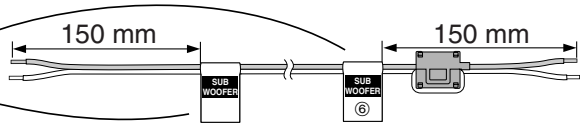


Speaker-cable stickers

SURROUND L,R (10 m)
e.g.) SURROUND R

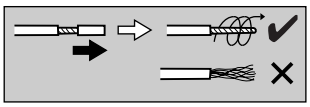


CENTER, SUBWOOFER (4 m)
e.g.) SUBWOOFER

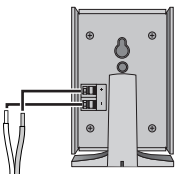


❷ Connecting the speakers

Match the labels on the speaker stickers with the labels on the terminals.



Connect center, surround L and subwoofer in the same way.

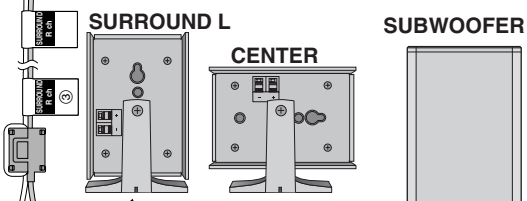


SURROUND R

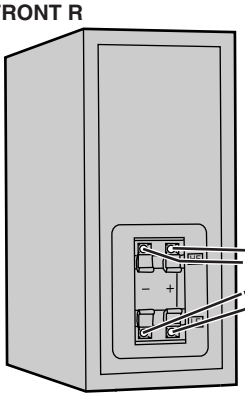
SURROUND L

CENTER

SUBWOOFER



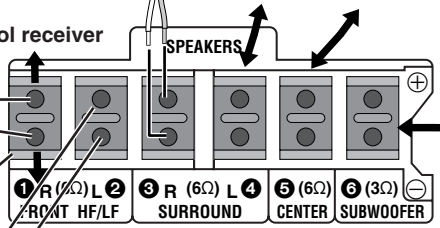
FRONT R



Copper: +
Silver: −

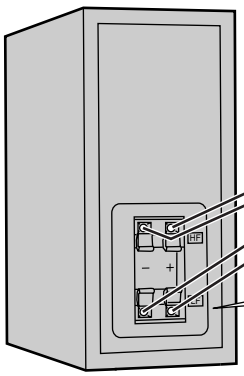
To prevent damage to circuitry, never short-circuit positive (+) and negative (−) speaker wires.

AV control receiver

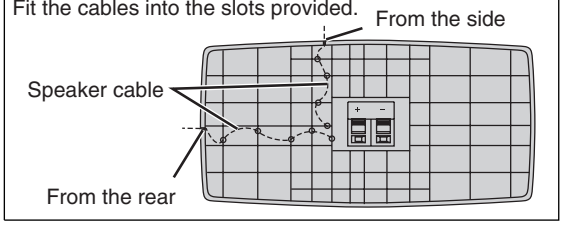


Push the lever in the direction indicated by the arrow, insert the wire, release the lever and press down on it lightly.

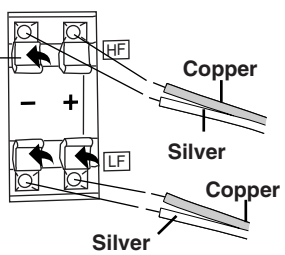
FRONT L



The subwoofer's terminals are on the bottom.
Fit the cables into the slots provided.



Push the lever in the direction indicated by the arrow, insert the wire, then release the lever.



Copper: +
Silver: −

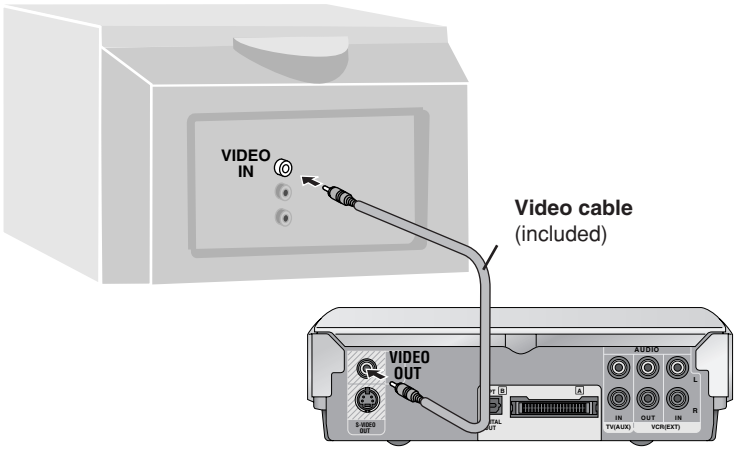
HF: High Frequency
LF: Low Frequency

STEP 3 Television

Video cable

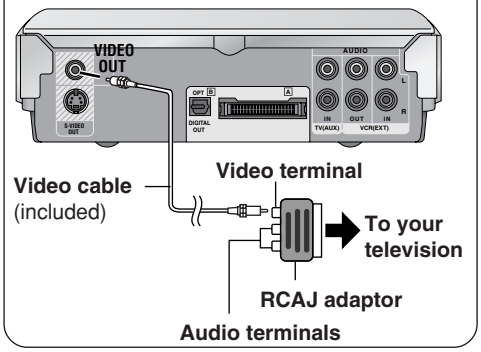
■ Connecting a television with a VIDEO IN terminal

Connect directly to your television.
Do not connect the unit through a video cassette recorder, because the picture may not be played correctly due to the copy guard.



For the United Kingdom, Continental Europe and Russia

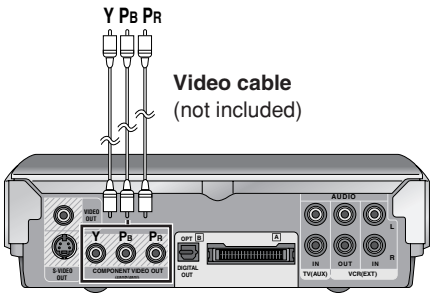
Use the RCAJ adaptor (included) if your television has a 21-pin SCART terminal. You do not have to connect anything to the AUDIO terminals.



■ Connecting a television with COMPONENT VIDEO terminal

For Southeast Asia, Australia and N.Z.

Television's COMPONENT VIDEO IN terminal



COMPONENT VIDEO OUT terminal
These terminals can be used for either interlace or progressive output and provide a purer picture than the S VIDEO OUT terminal. Connection using these terminals outputs the color difference signals (P_B/P_R) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colors.

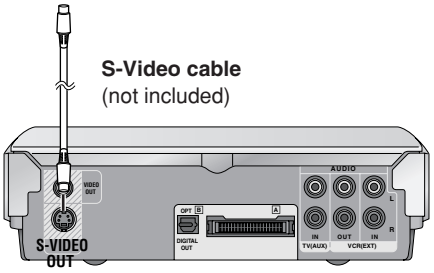
- The description of the component video input terminals depends on the television or monitor (e.g. Y/P_B/P_R, Y/B-Y/R-Y, Y/C_B/C_R). Connect to terminals of the same color.

To enjoy progressive video

- Connect to the component video (480P) input terminals on a television compatible with this unit's copy guard system. (Video will not be displayed correctly if connected to an incompatible television.)
- Press [PROGRESSIVE] so "PROGRESSIVE" appears on the display (➡ page 13).
- All televisions manufactured by Panasonic and that have 480P input connectors are compatible. Consult the manufacturer if you have another brand of television.

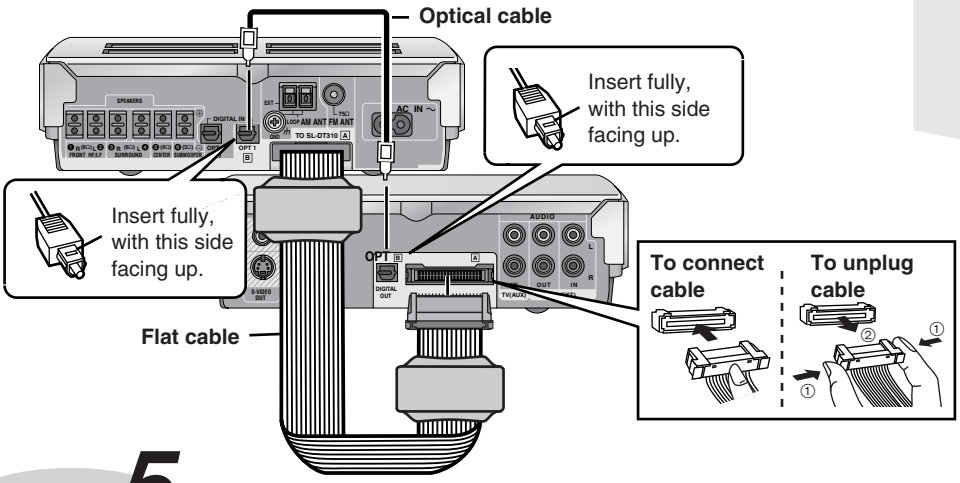
■ Connecting a television with an S-VIDEO IN terminal

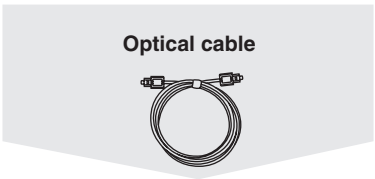
Television's S VIDEO IN terminal



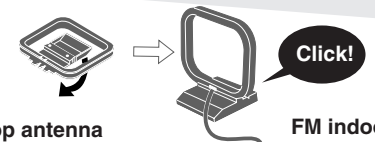
S VIDEO OUT terminal
The S video terminal achieves a more vivid picture than the VIDEO OUT terminal by separating the chrominance (C) and luminance (Y) signals. (Actual results depend on the television.)

STEP 4 Flat cable and optical cable


Optical cable
Insert fully, with this side facing up.
Insert fully, with this side facing up.
Flat cable
To connect cable
To unplug cable



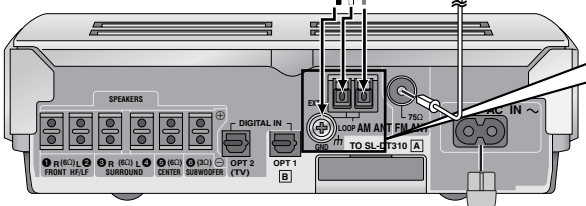
STEP 5 Antennas and AC mains lead



AM loop antenna
Stand the antenna up on its base.
Keep loose antenna cord away from other wires and cords.

FM indoor antenna
Fix the other end of the antenna where reception is best.

Adhesive tape



AC mains lead

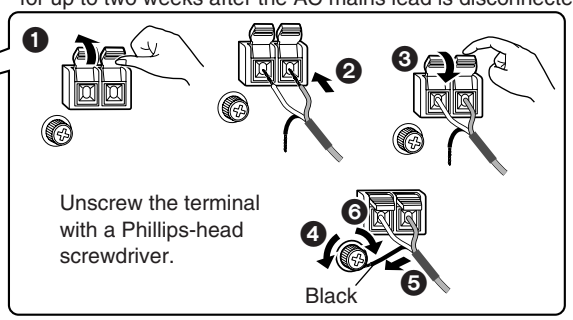
To household mains socket

For the United Kingdom only
BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 4 BEFORE CONNECTION.

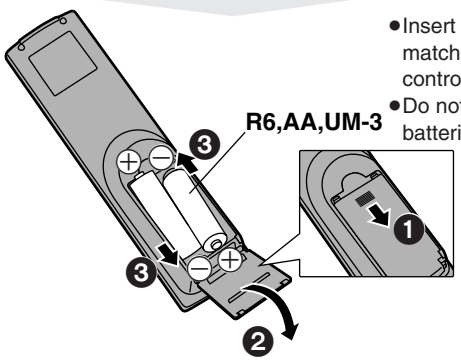
Conserving power

The unit consumes power (approx. 0.7 W) even when it is turned off with [⏻]. To save power when the unit is not to be used for a long time, unplug it from the household mains socket.
Remember to reset the radio stations and any other memory items before using the unit again.

Information you enter into the unit's memory remains intact for up to two weeks after the AC mains lead is disconnected.



STEP 6 The remote control



- Insert so the poles (+ and −) match those in the remote control.
- Do not use rechargeable type batteries.

Do not;
- mix old and new batteries.
- use different types at the same time.
- heat or expose to flame.
- take apart or short circuit.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.

Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

■ Use

Aim at the sensor, avoiding obstacles, at a maximum range of 7 m directly in front of the unit.

Other speaker setup options

Attatching to a wall

(Center and surround speakers only)

Note

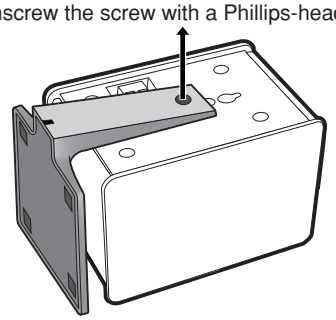
The wall or pillar on which the speakers are to be attached should be capable of supporting 5 kg per screw.

1 Remove the stand.

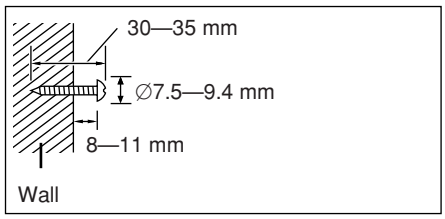
BEFORE REMOVING THE STAND

- Take the speaker cable out of the stand's hole if it is threaded through.
- Lay the speaker on a soft cloth.

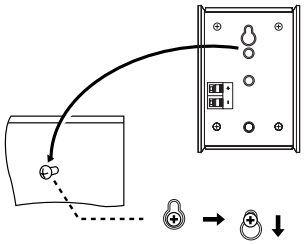
Unscrew the screw with a Phillips-head screwdriver.



2 Screw a screw (not included) into the wall.



3 Fit the speaker securely onto the screw with the hole.



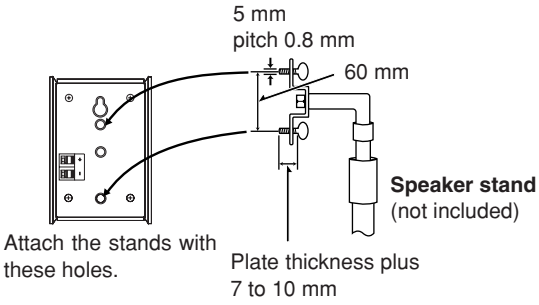
Fitting speaker stands (optional)

Preparation

Remove the stand (➡ step **1** above).

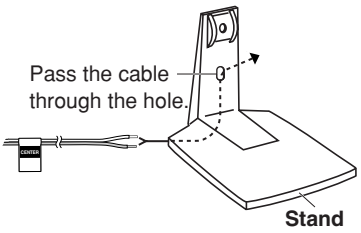
Ensure the stands meet these conditions before purchasing them.

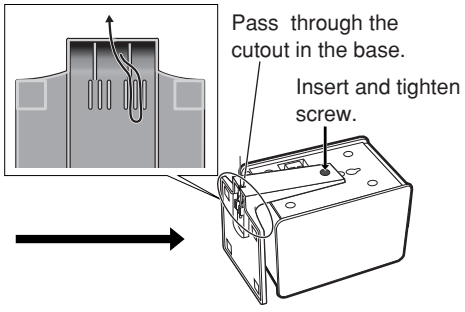
- Observe the diameter and length of the screws and the distance between screws as shown in the diagram.
- The stands must be able to support over 5 kg.
- The stands must be stable even if the speakers are in a high position.



Keeping the cables out of the way

Pass the cables through the holes in the stand to keep them out of the way.





Notes on speaker use

- You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
- Reduce the volume in the following cases to avoid damage.
  - –When playing distorted sound.
  - –When the speakers are receiving howling from a record player, noise from FM broadcasts, or continuous signals from an oscillator, test disc, or electronic instrument.
  - –When adjusting the sound quality.
  - –When turning the unit on or off.

If irregular coloring occurs on your television

These speakers are designed to be used close to a television, but the picture may be affected with some televisions and setup combinations.

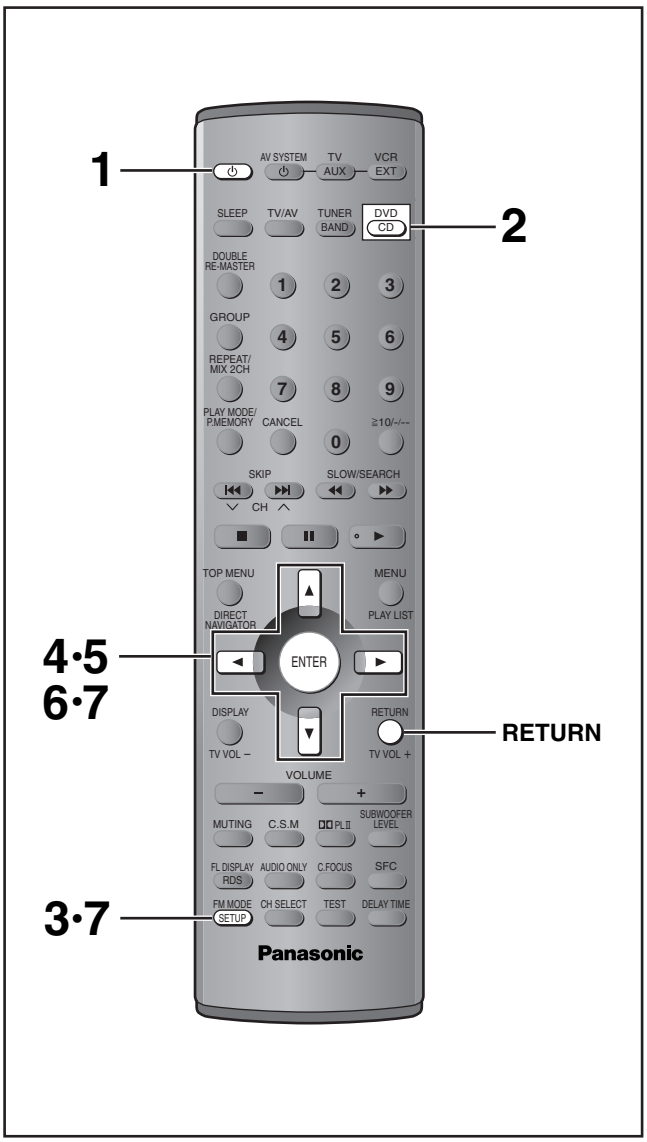
If this occurs, turn the television off for about 30 minutes.

The television's demagnetizing function should correct the problem. If it persists, move the speakers further away from the television.

Caution

- **Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.**
- **Do not attempt to attach these speakers to walls using methods other than those described in this manual.**

STEP 7 QUICK SETUP



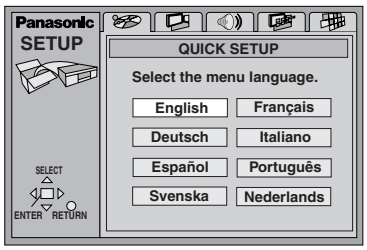
Preparation
Turn on the television and select the appropriate video input on the television to suit the connections for the unit.

1 **Press [⏻] to turn on the unit.**

2 **Press [DVD] to select "DVD".**

3 **Press [SETUP] to show the QUICK SETUP screen.**

For the United Kingdom, Continental Europe and Russia



4 **Press [▲, ▼, ◄, ►] to select the menu language and press [ENTER].**

5 **Press [▲, ▼] to select "Yes" to continue and press [ENTER].**

6 **Press [▲, ▼, ◄, ►] to select the item and press [ENTER].**
- Audio Language (➡ page 31)
- Subtitle Language (➡ page 31)
- TV Type (➡ below)
- TV Aspect (➡ below)

7 **Press [ENTER] and then [SETUP] to end the settings.**

The **QUICK SETUP screen** appears when you press [SETUP] the first time after purchase and assists you to make necessary settings. You can access this screen again later if you need to (➡ page 31, Others—QUICK SETUP)

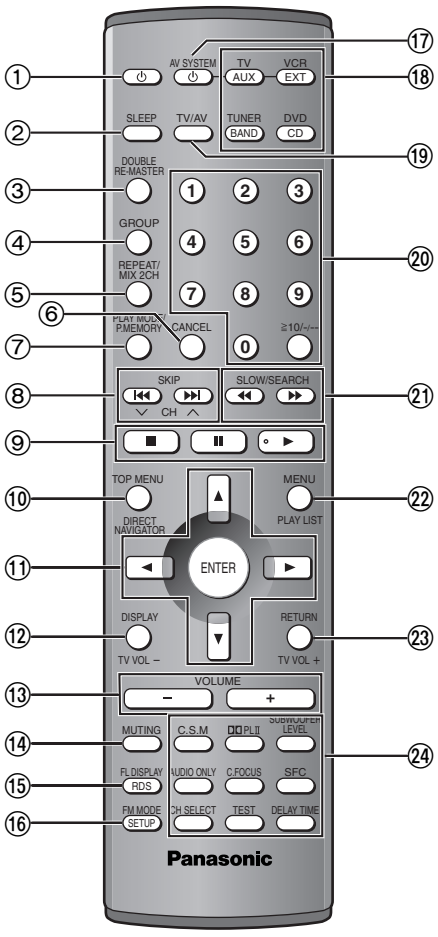
To return to the previous screen
Press [RETURN].

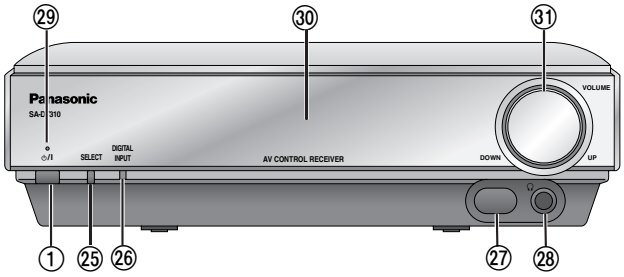
■ TV Type
Select to suit the type of television.
- **Standard (Direct View TV)** (factory preset)
- **CRT Projector**
- **LCD TV/Projector**
- **Projection TV**
- **Plasma TV**

■ TV Aspect
Select "**4:3**" (regular) or "**16:9**" (widescreen) to suit your television. If you have a regular 4:3 television, you can also select how video on some discs is shown (➡ page 31, Video—TV Aspect).

- **4:3 Pan&Scan** (factory preset)
  Widescreen software is expanded to fill the screen of a 4:3 aspect television (unless prohibited by the producer of the disc).

- **4:3 Letterbox**
  Widescreen software is shown in the letter-box style on a 4:3 aspect television.





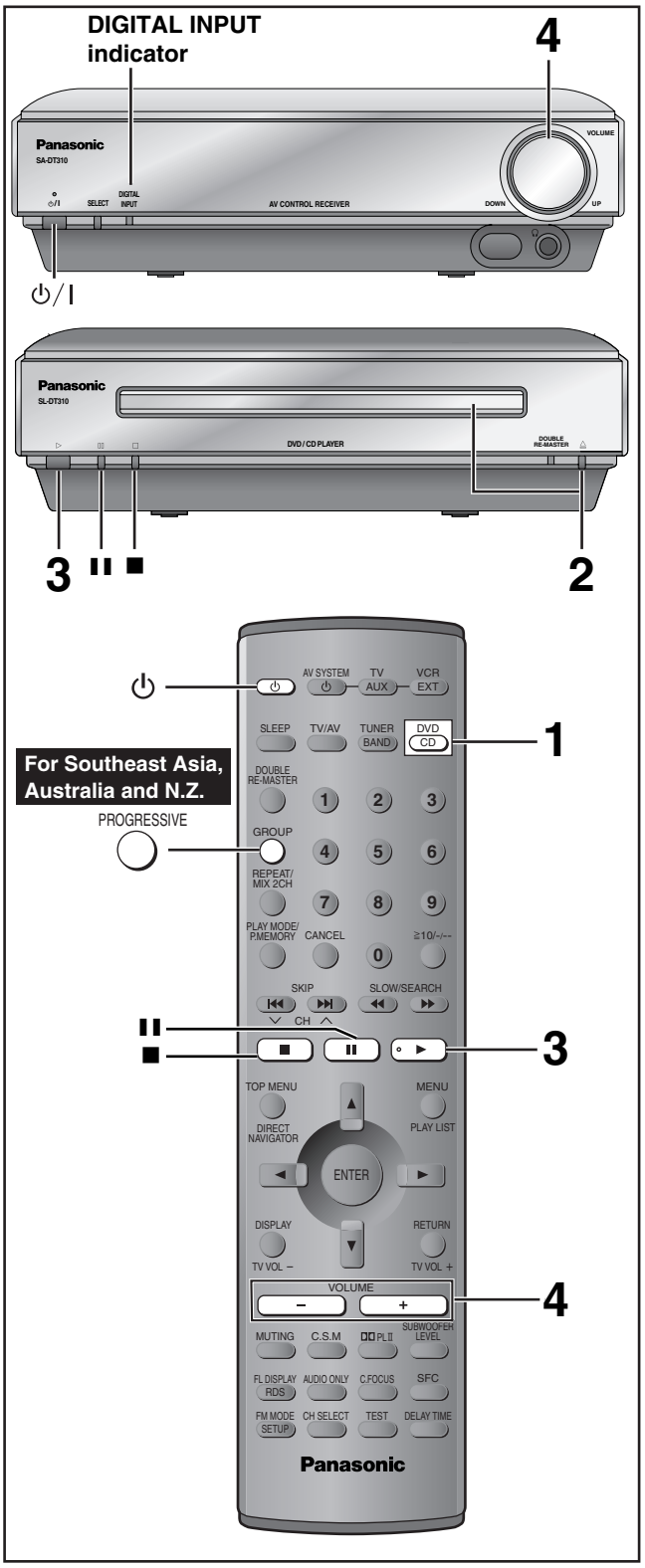
Remote control

① **Standby/on button [⏻]** 11
② **Sleep button [SLEEP]** 30
③ **Double re-master button [DOUBLE RE-MASTER]** 29
④ **For the United Kingdom, Continental Europe and Russia**
Group button [GROUP] 15
For Southeast Asia, Australia and N.Z.
Progressive button [PROGRESSIVE] 13
⑤ **Repeat/Mix 2ch button [REPEAT/MIX 2CH]** 15, 27
⑥ **Cancel button [CANCEL]** 16
⑦ **Play mode/Position memory button [PLAY MODE/ P.MEMORY]** 14, 16
⑧ **For the United Kingdom, Continental Europe and Russia**
Skip, preset channel, TV channel button [|◀◀, ▶▶|, SKIP, ∨ CH ∧] 14, 26, 35
For Southeast Asia, Australia and N.Z.
Skip, preset channel, TV channel, Group button [SKIP/CH, |◀◀/∨, ∧/▶▶|, – GROUP] 14, 15, 26, 35
⑨ **Basic operation buttons** 13
Stop button [■], Pause button [❚❚], Play button [▶]
⑩ **Top menu, Direct navigator button [TOP MENU, DIRECT NAVIGATOR]** 14, 19
⑪ **Cursor buttons [▲, ▼, ◀, ▶], Enter button [ENTER]** . . . 11
⑫ **Display, TV volume down button [DISPLAY, TV VOL –]** 22, 35
⑬ **Volume buttons [–, +, VOLUME]** 13
⑭ **Muting button [MUTING]** 30
⑮ **For the United Kingdom, Continental Europe and Russia**
RDS, FL display button [RDS, FL DISPLAY] 26, 30
For Southeast Asia, Australia and N.Z.
FL display button [FL DISPLAY] 30
⑯ **FM mode, Setup button [FM MODE, SETUP]** 11, 25
⑰ **AV system standby/on button [⏻, AV SYSTEM]** 35
⑱ **Source select buttons**
- Face towards this unit to change the source.
- Press [TV] or [VCR] first to operate a Panasonic television or video cassette recorder (➡ page 35).

⑲ **TV/AV button [TV/AV]** 35
⑳ **Numbered buttons [1–9, 0, ≧10/-/--]** 14
㉑ **Slow/Search buttons [◀◀, ▶▶ SLOW/SEARCH]** . . . 14, 25
㉒ **Menu, Play list button [MENU, PLAY LIST]** 14, 19
㉓ **Return, TV volume up button [RETURN, TV VOL +]** 11, 35
㉔ **Sound field, sound quality button** 27–29

Main unit

① **Standby/on switch [⏻/I]** 11
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
㉕ **Source select button [SELECT]**
Each time you press the button:
DVD→DVD OPT1 →TV<AUX>→TV OPT2→VCR<EXT>
↑——— AM ← FM———┘
㉖ **DIGITAL INPUT indicator** 13
㉗ **Remote control signal sensor**
㉘ **Headphone jack [🎧]** 30
㉙ **Standby/on indicator [⏻/I]**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
㉚ **Display**
㉛ **Volume control [VOLUME, DOWN, UP]** 13
㉜ **Basic operation buttons** 13
㉝ **DOUBLE RE-MASTER indicator** 29
㉞ **Open/close button [⏏]** 13
㉟ **Disc tray** 13



RAM DVD-A DVD-V VCD CD WMA MP3 JPEG

Preparation

- Press [⏻] to turn on the unit.
- Turn on the television and select the appropriate video input on the television to suit the connections for the unit.

1 Press [DVD] to select "DVD" as the source.

If the disc contains both audio data (WMA and MP3) and JPEG, check "Mixed disc—Audio & Stills" setting in the SETUP menu (➡page 31). Select "Stills (JPEG)" or "Audio (MP3/WMA)".

Each time you press the button:

DVD⟷DVD OPT1

For a more pure signal when playing stereo digital sources

Press [DVD] to select "DVD OPT1".

DIGITAL INPUT indicator lights up.

For Southeast Asia, Australia and N.Z.

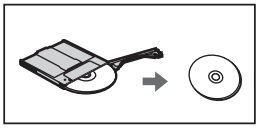
To enjoy progressive video

- Press [PROGRESSIVE].
  The television will be disrupted for a moment but this is normal.

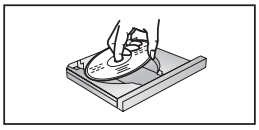
- Output from this unit is interlace if you have connected to the television through the VIDEO OUT or S-VIDEO OUT or playing PAL discs, even if "PROGRESSIVE" is on the display.

2 Press [⏏] to open the disc tray and place the disc.

- RAM Remove TYPE 2 and 4 discs from their cartridges before use.



- Label-up (With double-sided discs, load so the label for the side you want to play is facing up.)



Press [⏏] again to close and start play.

When a menu appears after inserting a HighMAT disc

➡ page 21

3 If play doesn't start after step 2

Press [▶] (play).

The disc tray closes and play begins.

WMA MP3 CD (CD text only)

Group and track names are displayed on the television.

- To turn the display on or off ➡ page 23, Disc information ⑤
- You can also use the navigation menus to control play (➡ page 20).

4 Adjust the volume.

– – dB ▁▂▃▅▇ 0 dB

(Minimum) (Maximum)

■ To pause play

Press [❚❚] during play.

Press [▶] (play) to restart play.

■ To stop play

Press [■].

"RESUME" lights on the display when the unit has recorded the position at which you stopped play.

Press [▶] (play) to start play from that position.

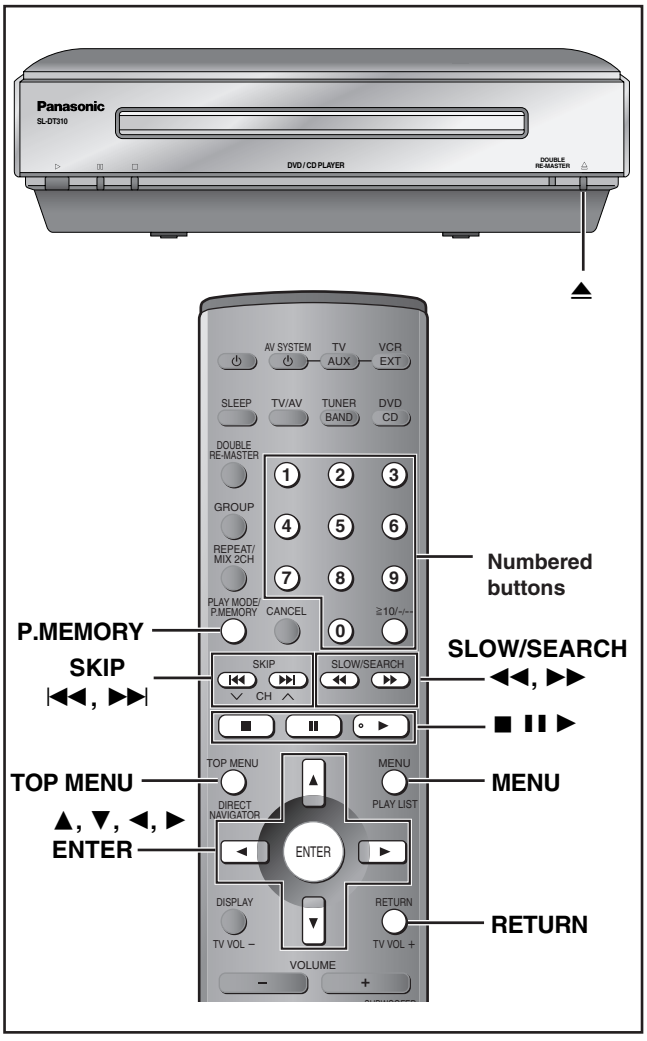
DVD-Video: Press [▶] (play) again to review chapters (➡ page 14).

- The position is cleared when you:
  —Turn the unit off.
  —Select another source or open the disc tray.
- Press [■] to clear the position.

Note

- **If " ⃠ " appears on the television**
  The operation is prohibited by the unit or disc.
- It may take some time for play to start but this is normal.
- When you have selected "DVD OPT1":
  —Multiple channel signals play through the front speakers only.
  e.g.) Dolby Digital

  —Some signals cannot be played.

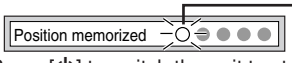


Position Memory function

RAM DVD-A DVD-V VCD CD WMA MP3 JPEG

Memorize positions on up to five discs to restart play after switching the unit to standby, change the source or changing discs.

1 During play, press [P.MEMORY].



Flashes as you memorize a position.

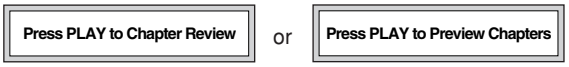
2 Press [⏻] to switch the unit to standby, change the source or press [⏏] to remove the disc.

3 Press [►] (play) to restart from the position.
DVD-Video: Press [►] (play) again to review chapters (➡ below).

- When you memorize the sixth position, the earliest position is replaced.
- This function does not work while playing some DVDs or play lists on DVD-RAM.

Chapter Review DVD-V

This message appears.



Press [►] (play) again to review the first few seconds of the chapters up to the one where you memorized the position. Play then resumes from the memorized position.
Do not press [►] (play) if you do not want to review chapters.

When a menu appears on the television

DVD-A DVD-V VCD

Press the numbered buttons to select an item.

To select a 2-digit number

Example: To select item 23, press [≧10/-/--] ➡ [2] ➡ [3].

- When playing DVDs, you can also use [▲, ▼, ◄, ►] to select items. Press [ENTER] to confirm your selection.

To return to the menu screen

DVD-A DVD-V [TOP MENU]: Shows the first menu screen.
DVD-V [MENU]: Shows the menu screen.
VCD [RETURN]: Shows the menu screen.

Note

- The disc continues to rotate while the menu is displayed even after you finish playing an item. Press [■] when you finish to preserve the unit's motor and your television screen.

Skipping items

RAM DVD-A DVD-V VCD CD WMA MP3 JPEG

During play or while paused

Press [|◄◄] or [►►|].

- Each press increases the number of skips.

JPEG

Press [▲] or [▼] for group skip.

Fast forward and rewind—SEARCH

RAM DVD-A DVD-V VCD CD WMA MP3

During play

Press [◄◄] or [►►].

- Audio will be heard during search for most discs. You can turn this audio off if you want to (➡ page 31, Audio—Audio during Search).
- DVD-V You can slow down or speed up play (➡ page 22).

Slow-motion play

RAM DVD-V VCD
DVD-A (Motion picture parts only)

While paused

Press [◄◄] or [►►].

Frame-by-frame viewing

RAM DVD-V VCD
DVD-A (Motion picture parts only)

While paused

Press [◄] or [►].

The frame changes each time you press the button.

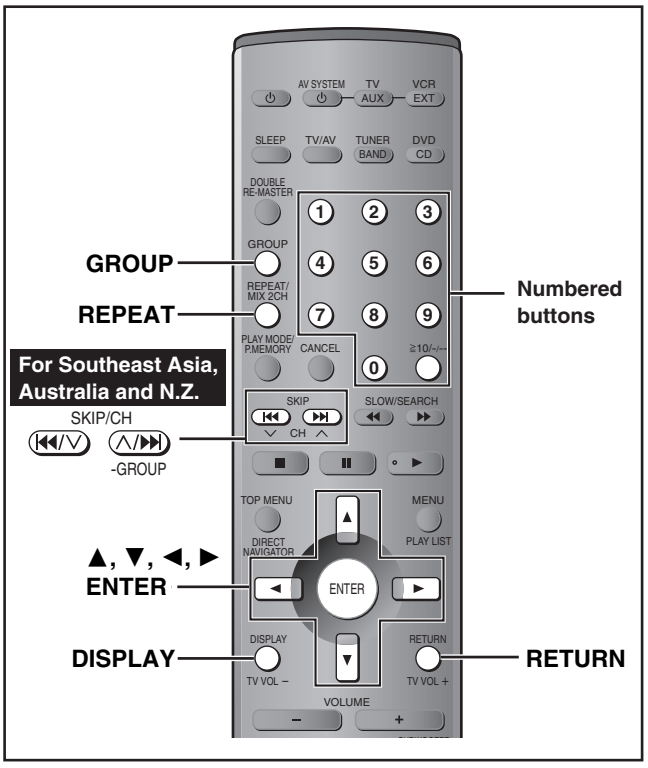
- The frames change in succession if you press and hold the button.
- Pressing [❚❚] also activates forward frame-by-frame.

Notes

- The speed of search and slow-motion increases up to 5 steps.
- Press [►] (play) to restart play.
- You cannot move backwards with Video CD during frame-by-frame and slow-motion.

When playing Video CDs with playback control

Pressing buttons to perform skip, search or slow-motion may take you to a menu screen.



Starting play from a selected item

RAM DVD-A DVD-V VCD CD WMA MP3 JPEG

Press the numbered buttons to select the item.

Play starts from the selected item.
To select a 2-digit number
Example: To select track 23, press [≧10/-/--] ➡ [2] ➡ [3].
WMA MP3 JPEG : [2] ➡ [3] ➡ [ENTER]

Note
This works only when stopped with some discs.

Repeat play

RAM DVD-A DVD-V VCD CD WMA MP3 JPEG

During play

Press [REPEAT].

Each time you press the button:
RAM
Program→All (Entire disc)→Off
●During play list play
Scene→Playlist→Off
DVD-V
Chapter→Title※→Off
VCD CD
Track→All (Entire disc)→Off
DVD-A WMA MP3
Track→Group※→Off
JPEG
Group→Off
※**During all group (DVD-A), program and random play**
"All" is displayed.
●You can also repeat play of content and group on HighMAT discs.

■ To repeat only your favorite tracks/chapters

Start program play (➡ page 16) and press [REPEAT] to select the repeat mode.

A-B repeat play

RAM DVD-A DVD-V VCD CD WMA MP3

You can repeat a section between points A and B within a program, title or track.

1 **During play**

Press [DISPLAY] until the unit information screen is displayed

(➡page 23).

2 ### Press [▲, ▼] to select the play menu.

A-B Repeat

3 ### Press [◄, ►] to select "A-B Repeat" and ①Press [ENTER] at the starting point (A). ②Press [ENTER] at the finishing point (B).

A-B repeat starts.

To return to the normal play
Press [ENTER] again.
To clear the menus
Press [RETURN] until the menu disappears.

Selecting groups to play

DVD-A WMA MP3 JPEG

1 **For the United Kingdom, Continental Europe and Russia**

Press [GROUP].

For Southeast Asia, Australia and N.Z.

Press and hold [∧/▶▶|, -GROUP].

Example MP3

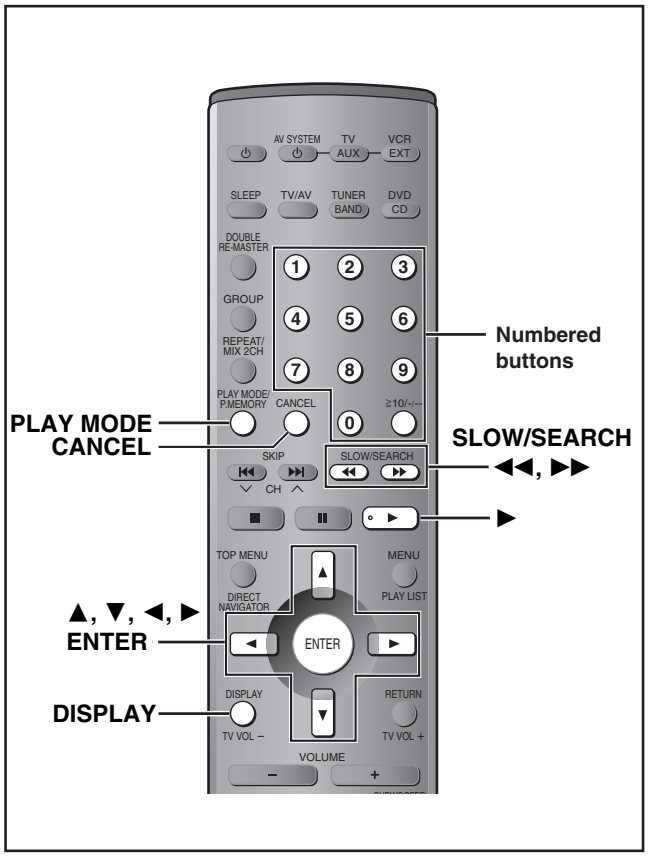
Track number in group
Group number

2 ### Press the numbered buttons to select the group number and press [ENTER].

3 ### Press the numbered buttons to select the track/picture number and press [ENTER].

DVD-A
Playing all the groups in succession (➡ page 16, All group play)

Playing bonus groups
Some discs contain bonus groups. If a password screen appears after selecting a group, enter the password with the numbered buttons. Refer to the disc's jacket.



DVD-A DVD-V VCD CD WMA MP3

Common procedures for all group, program and random play

While stopped
Press [PLAY MODE].
Each time you press the button:
All group (DVD-A)→Program→Random→OFF(Normal play)

DVD-A
If you select bonus groups, you will have to enter a password (➡ page 15).

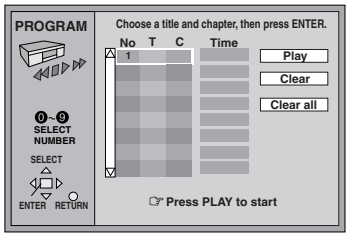
All group play

DVD-A

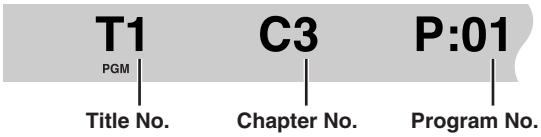
Press [▶] (play).

Program play

You can select up to 24 items to play in the order you choose.
Example DVD-V



1 Press the numbered buttons to select a title, chapter, group or track (WMA MP3) then press [ENTER]).



- **To select a 2-digit number**
  Example: To select item 25, press [≧10/-/--] ➡ [2] ➡ [5].
  WMA MP3: [2] ➡ [5] ➡ [ENTER]
- Repeat this step to program other items.
- **To select an item using the cursor buttons**
  Press [ENTER] and [▲, ▼] to select an item, then press [ENTER] again to register the number.
  All the items in the selected disc, title or group are selected when you select “ALL”.

2 Press [▶] (play).

To add or change the program
Press [▲, ▼] to select an available item, then repeat step **1**.

To move to the page before or after the one shown
Press [◀◀, ▶▶].

To clear an item
1 Select the item you want to clear with [▲, ▼].
2 Press [CANCEL], or select “Clear” with [▲, ▼, ◀, ▶] and press [ENTER].

To clear the whole program
Select “Clear all” with [▲, ▼, ◀, ▶] and press [ENTER].

Note
- DVD-V WMA MP3
  Times are not displayed while programming.
- The program is cleared when you switch the unit to standby, open the disc tray, select another source, or exit the program mode by pressing [PLAY MODE].

Random play

1 DVD-A DVD-V

Press the numbered buttons to select a title or a group.

Example DVD-V

DVD-A
- You can select more than one group.
- To enter all groups, select “All” using [◀, ▶] and press [ENTER].
- To deselect a group, press the numbered buttons corresponding to the group you want to clear.

2 Press [▶] (play).

Note
Disable HighMAT disc play to use program and random play.
In the SETUP menu, set “HighMAT” to “Disable” (➡ page 31) and perform the necessary operations (➡ above).

●"–" or "––" is displayed instead of the language number in circumstances such as when no language is recorded on the disc.

Soundtracks

RAM DVD-A DVD-V VCD
(Discs with multiple soundtracks)

1 **During play**

Press [DISPLAY] until the disc information screen is displayed.

Audio Number

2 **Press [◄, ►] to select "Audio Number".**

3 **Press [▲, ▼] to select the audio language.**

Signal type/data (➡below)

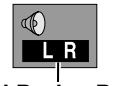
DVD-A

Soundtrack selected
Soundtrack playing

DVD-V

Audio language
Number of channels (➡below)

RAM VCD



LR→L→R

●You can also use this button to turn the vocals on and off on karaoke discs. Read the disc's instructions for details.

DVD-A

●Play restarts from the beginning of the soundtrack when changing soundtracks that are accompanied by still pictures.
●Even if a second soundtrack isn't recorded, two soundtrack numbers will normally appear in the soundtrack display. The soundtrack currently playing is number 1.

Signal type/data

LPCM/PPCM/DDigital/DTS/MPEG: Signal type
k (kHz): Sampling frequency
b (bit): Number of bits ch (channel): Number of channels

Example:
3/2 .1ch

.1:	Low frequency effect (not displayed if there is no signal)
0:	No surround
1:	Mono surround
2:	Stereo surround (left/right)
1:	Center
2:	Front left+Front right
3:	Front left+Front right+Center

Subtitles

DVD-A (Motion picture parts only)
DVD-V
(Discs with multiple subtitle languages)
You can change the subtitle language and turn the subtitles on and off.

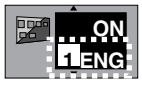
RAM
You can turn the subtitles on and off.

1 **During play**

Press [DISPLAY] until the disc information screen is displayed.

Subtitle Number

2 **Press [◄, ►] to select "Subtitle Number".**



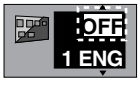
3 **Press [▲, ▼] to select the language.**

●In some cases, the subtitle language is not changed to the selected one immediately.
●Refer to "Audio/Subtitle language" (➡page 23) for language abbreviations.

To clear/display the subtitles

1 Press [◄, ►] to highlight the following icon.

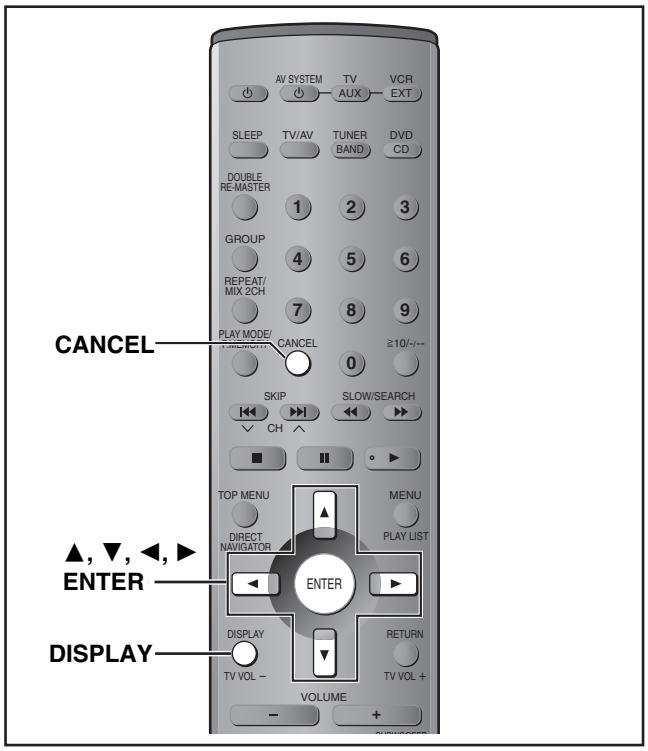
DVD-A DVD-V



RAM

2 Press [▲, ▼] to select "OFF" or "ON".

■Changing the position and brightness of the subtitles (➡ page 24)



Marking places to play again

RAM DVD-A DVD-V VCD CD WMA MP3 JPEG

You can mark a position so you can return to it easily at a later time.

1 During play

Press [DISPLAY] until the unit information screen is displayed
(➡ page 23).

2 **Press [▲, ▼] to select the play menu.**

Example DVD-V

3 **Press [◄, ►] to select "Marker" and press [ENTER].**

RAM

Press [►] to select an asterisk (∗).

4 **Press [ENTER] at the point you want to mark.**

To mark another position

Up to 5 points (RAM only: up to 999 points)

1 Press [►] to select "∗".

2 Press [ENTER] at the point.

To recall or erase a marker

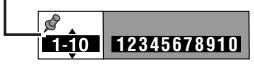
1 Press [◄, ►] to select a marker.

2 Press [ENTER] to recall or press [CANCEL] to erase.

RAM

To mark the eleventh point and beyond

1 Press [◄, ►] to select the marker pin icon.



2 Press [▲, ▼] to select "11-20".

You can select the next group when the current group is full.

Note

Markers added with this unit clear when you switch the unit to standby, change the source, or open the disc tray.

Variable Zoom function

RAM DVD-V VCD

DVD-A (Motion picture parts only)

Change the zoom ratio so the picture expands to the optimum size to fill the screen.

Preparation

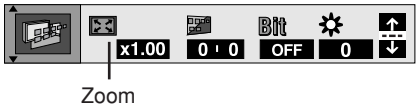
Change the setting "TV Aspect" to suit your television (➡ page 31).

1 During play

Press [DISPLAY] until the unit information screen is displayed
(➡ page 24).

2 **Press [▲,▼] to select the display menu.**

For the United Kingdom, Continental Europe and Russia



3 **Press [◄, ►] to select "Zoom" and press [ENTER].**

4 **Press [◄, ►] to select the aspect ratio.**

4:3 Standard ⟷ European Vista ⟷ 16:9 Standard

Cinemascope2 ⟷ Cinemascope1 ⟷ American Vista

- Rrefer to the disc's instructions and "Screen size" below for the aspect ratio of the picture.
- **Making fine adjustments to the zoom ratio**
  Press [▲, ▼] and press [ENTER].
  The ratio changes in 0.01 units between 1.00 and 1.60 and in 0.02 units between 1.60 and 2.00.

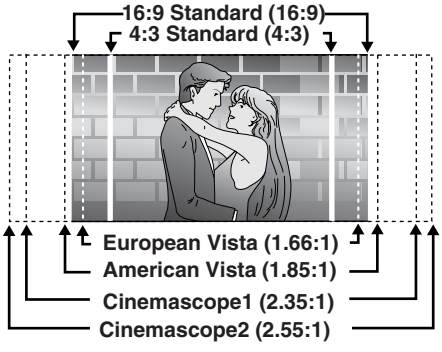
To restore the original ratio

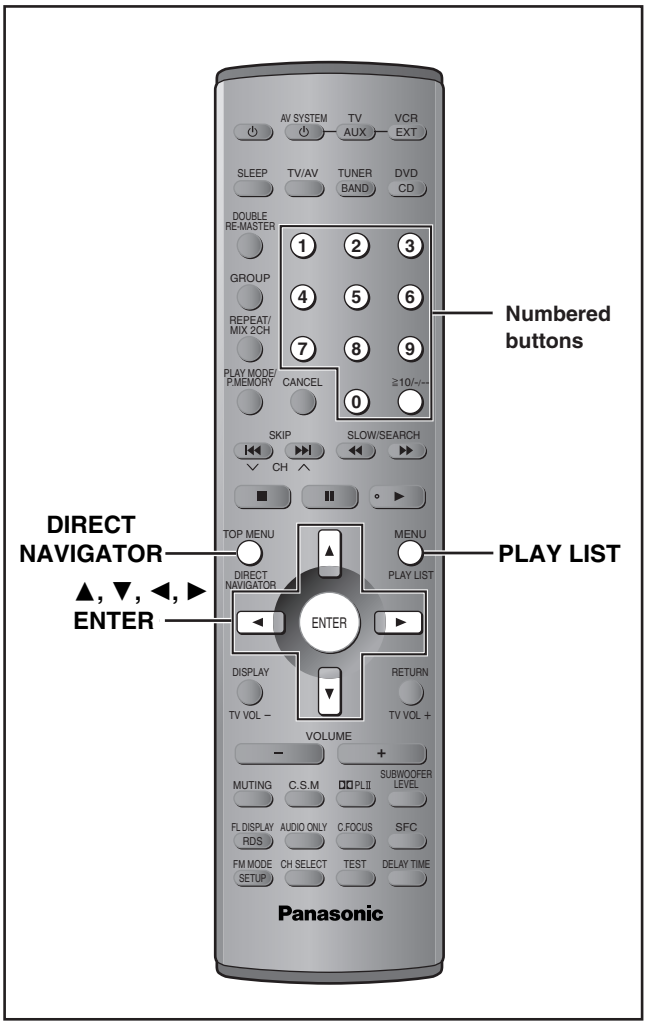
Press [◄,►] until the ratio returns to 1.00.

- The ratio also returns to 1.00 when you open the disc tray, change the source or switch the unit to standby.
- The ratio may return to 1.00 when a menu is displayed.

■ Screen size

Movies are made using a variety of screen sizes.



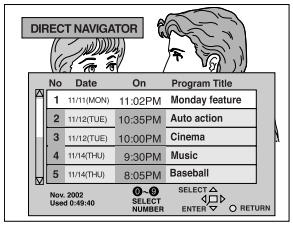


RAM

Selecting a program to play— DIRECT NAVIGATOR

Use the program list to find programs to play.

1 Press [DIRECT NAVIGATOR].



2 Press [▲, ▼] to select the program.

The selected program plays in the background.

- You can select programs with the numbered buttons.

To select a 2-digit number

Example 23: [≧10/-/--] ➡ [2] ➡ [3].

3 Press [ENTER].

The program being played in the background continues.

To clear the program list

Press [DIRECT NAVIGATOR].

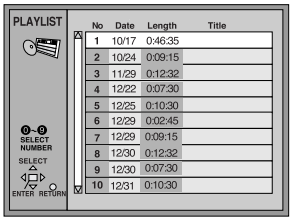
Note

- Titles appear only if you have entered them.
- You cannot change program and disc titles.

Using the play list menu

You can play a group of scenes, a play list, created on other equipment such as a DVD video recorder.

1 Press [PLAY LIST].



2 Press [▲, ▼] to select the play list.

- You can select play lists with the numbered buttons.

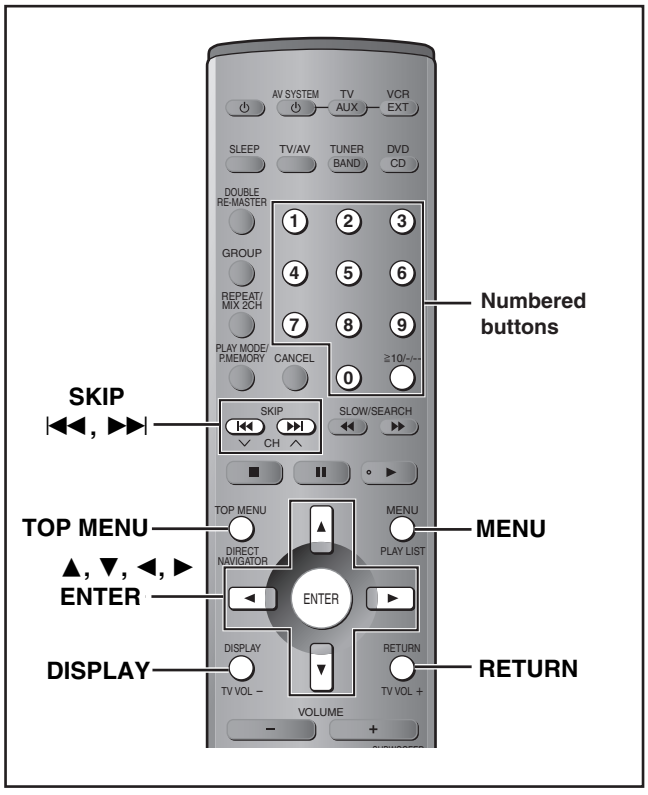
To select a 2-digit number

Example 23: [≧10/-/--] ➡ [2] ➡ [3]

3 Press [ENTER] to start play.

To clear the play list screen

Press [PLAY LIST].

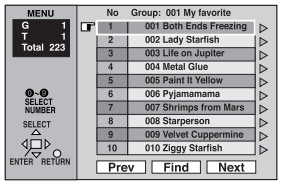


If the disc contains both audio data (WMA and MP3) and JPEG,
ckeck “Mixed disc—Audio & Stills” setting in the SETUP menu (➡ page 31).
Select “Stills (JPEG)” or “Audio (MP3/WMA)”.

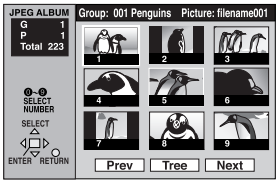
WMA MP3 CD (CD text only) JPEG
These menus help you find items to play.

1 Press [TOP MENU].

WMA/MP3 Audio navigation menu



JPEG Album display



“☞” indicates the track currently playing.

2 Press [▲, ▼] to select a track or [▲, ▼, ◄, ►] to select the picture, and press [ENTER].

To show other pages, press [▲, ▼, ◄, ►] to select “Prev” or “Next” and press [ENTER].

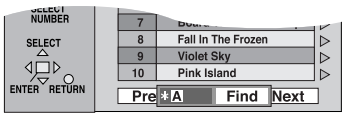
- After listing all the tracks or pictures in one group, the list for the next group appears.

To exit the menu
Press [TOP MENU].

Track title search WMA MP3 CD (CD text only)

Example: finding a track including the word “LOVE”

1 While the menu is displayed
Press [▲, ▼] to select “Find” and press [ENTER].



2 Press [▲, ▼] to select “L” and press [ENTER].

Only uppercase appear but the search also includes lower case.
Characters change in alphanumeric order each time you press [▲].
Repeat this step to enter “O”, “V”, and “E”.

- Press [|◄◄, ►►|] to skip between A, E, I, O, and U.
- Press [◄] to erase a character.
- You can erase the asterisk (∗) to search for the first word in a title.
- You can enter numbers with the numbered buttons.

3 Press [►] to select “Find” and press [ENTER].

The search results screen appears.

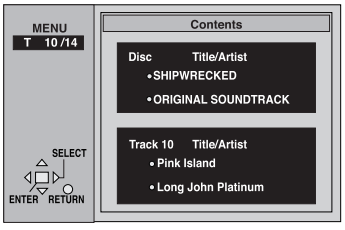
4 Press [▲, ▼] to select the track and press [ENTER].

To return to the menu
Press [RETURN].

To use the contents screen to find a track
CD (CD text only)

You can use the text information recorded on these discs to find a track to play.

1 While the menu is displayed
Press [►] while a track is highlighted to display the contents screen.



2 Press [◄, ►] to move through the tracks and press [ENTER].

To return to the menu
Press [RETURN].

Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

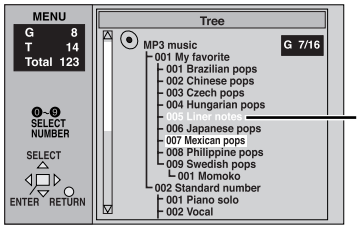
Designed for Windows Media™

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

To use the tree screen to find a group WMA MP3 JPEG

1 **While the menu is displayed**

Press [►] while a track is highlighted to display a tree screen (WMA MP3).
Press [▲, ▼, ◄, ►] to select "Tree" and press [ENTER] (JPEG).



You cannot select groups that contain no compatible files.

2 **Press [▲, ▼, ◄, ►] to select a group and press [ENTER].**

The audio navigation menu/album display for the group appears.

To return to the menu
Press [RETURN].

Note

WMA
- Noise may occur when playing WMA files.
- You cannot play WMA files that are copy protected.
- WMA files must have the extension ".WMA" or ".wma".

MP3
- This unit is not compatible with ID3 tags.
- If you play an MP3 track that includes still picture data, it will take some time before the music itself starts playing and the elapsed time will not be displayed during this time. Even after the track starts, the correct play time will not be displayed.
- MP3 files must have the extension ".MP3" or ".mp3".

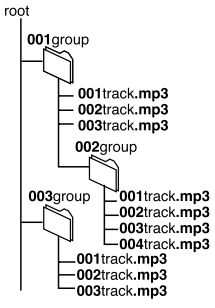
JPEG

To view JPEG files on this unit:
—Take them on a digital camera that meets the DCF (Design rule for Camera File system) standard. Some digital cameras have functions that are not supported by the DCF standard like automatic picture rotation which may render a picture un-viewable.
—Do not alter the files in any way or save them under a different name.
—Ensure they have the extension ".JPG" or ".jpg", ".JPEG" or ".jpeg".
- This unit cannot display moving pictures, MOTION JPEG and other such formats, still pictures other than JPEG (i.e. TIFF) or play associated sound.

WMA MP3 JPEG
- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit is compatible with multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.

Naming folders and files
At the time of recording, give folders and file names with 3-digit prefixes in the order you want to play them (this may not work at times).

e.g. MP3



Playing HighMAT discs

A menu appears after you insert the disc.

Press [▲, ▼, ◄, ►] to select then press [ENTER].

When you press [ENTER]:

Menu: Takes you to the next menu which shows play lists or another menu

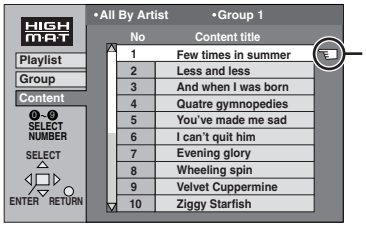
Play list: Play starts

- **To return to the menu screen**
  Press [TOP MENU].
- **To return to the menu above the current one**
  Press [RETURN].
- **To change the menu background**
  Press [DISPLAY].
  The background changes to the one recorded on the disc.

■ Selecting from the lists

1 **During play**

Press [MENU].



Playing

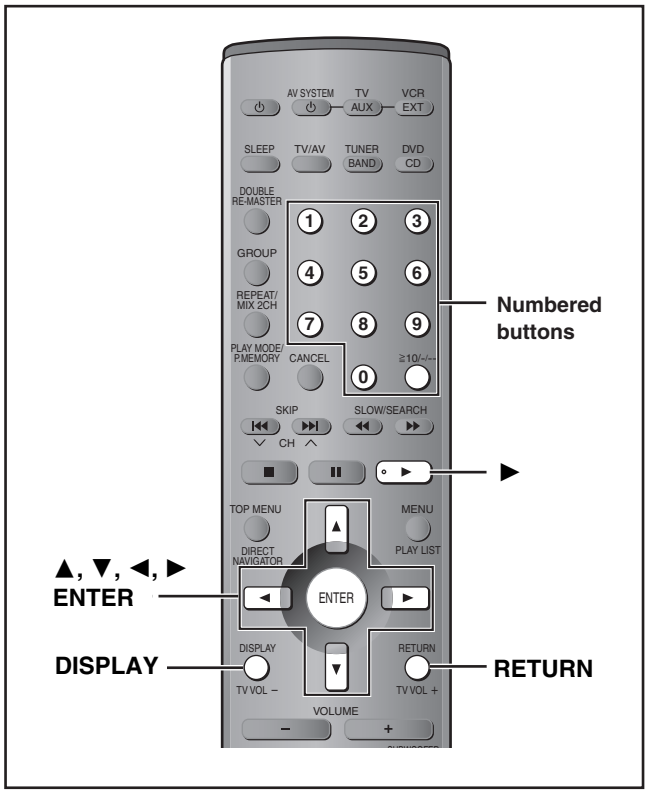
2 **Press [◄] then [▲, ▼] to switch between the play list, group and content lists.**

3 **Press [►] then [▲, ▼] to select an item and press [ENTER].**

To exit the list screen
Press [MENU].

HIGH MAT AUDIO•IMAGE

HighMAT and the HighMAT logo are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.



RAM DVD-A DVD-V VCD CD WMA MP3 JPEG

GUI screens are menus that contain information about the disc or unit. These menus allow you to perform operations by changing this information.

Common procedures

1 Press [DISPLAY].

Each time you press the button:

→ Disc information (➡ page 23)
↓
Progress indicator (➡ right)
↓
Unit information (➡ page 23)
↓
Original display

2

Unit information only

While the leftmost icon is highlighted

Press [▲, ▼] to select the menu.

Each time you press the button:

→Play menu
↓ ↑
Display menu
↓ ↑
Audio menu
↓ ↑
→Picture menu

3 Press [◄, ►] to select the item.

4 Press [▲, ▼] to select the setting.

- Items with "▲" or "▼" above and below can be changed by [▲, ▼].
- Press [ENTER] if the setting does not change after pressing [▲, ▼].
- Some items require different operations. Read the explanations on the following pages.

For your reference

- Depending on the condition of the unit (playing, stopped, etc.) and the type of software you are playing, there are some items that you cannot select or change.
- When numbers are displayed (e.g. title No.), the numbered buttons are also effective for setting. After entering the numbers, press [ENTER] to register the setting.

To clear the menus

Press [RETURN] until the menus disappear.

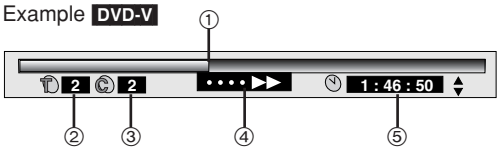
■ To change the position of the icons

1 Press [◄, ►] to select the rightmost icon.
2 Press [▲, ▼] to move the icons.
(There are 5 positions.)

Progress indicator

Indicates how far you have played through an item.

Example DVD-V



① **Current position** RAM DVD-A DVD-V VCD CD WMA MP3
② **PG: Program number** RAM
PL: Play list number RAM
T: Title number DVD-V
Track number VCD CD
G: Group number DVD-A WMA MP3 JPEG
③ **T: Track number in group** DVD-A WMA MP3
C: Chapter number DVD-V
④ **Condition - play, pause, or slow/search**
RAM DVD-A DVD-V VCD CD WMA MP3
Play speed (➡ below)
⑤ **Changing the time display** RAM DVD-A DVD-V VCD CD
Press [▲, ▼] to show the elapsed play time or remaining time for the program, play list, track or title (or chapter during program and random play).
Elapsed play time WMA MP3
(display only, cannot be changed)

Changing play speed

DVD-V (Dolby Digital only)
You can slow down or speed up play.
During play

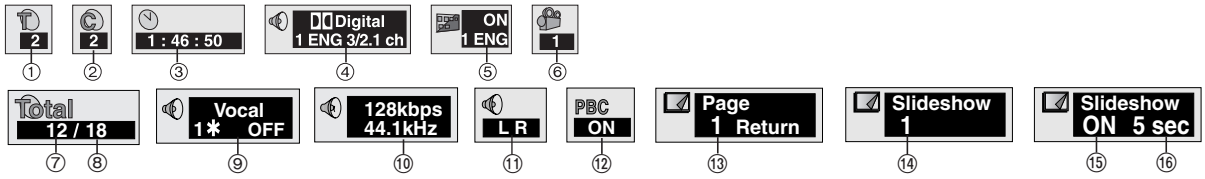
Press [◄] (slower) or [►] (faster).

There are five speeds:
×0.8←→×0.9←→×1.0 (normal speed)←→×1.2←→×1.4

After you change the speed, output is in stereo.
Sound is stereo as long as "×1.0" is orange.
To return to normal play (surround sound), press [►] (play) or [ENTER].
Normal play is also restored when you return the speed to ×1.0 and clear the progress indicator.

Unless otherwise indicated, select items with [◄, ►] and change with [▲, ▼].

Disc information



①	**PG: Program number** RAM **PL: Play list number** RAM **G: Group number** DVD-A WMA MP3 JPEG **T: Title number** DVD-V **Track number** VCD CD	[▲, ▼] ↓ [ENTER]
②	**T: Track number in group** DVD-A WMA MP3 **C: Chapter number** DVD-V **P: Picture number** JPEG	
③	**Time** RAM DVD-A DVD-V Select a position to start play by specifying a time.	Numbered buttons ↓ [ENTER]
	Changing the time display RAM DVD-A DVD-V VCD CD (WMA MP3 Display only) →Elapsed play time for the program, play list, title or track ↑ ↓ Remaining time for the group (DVD-A) or disc (VCD CD) ↑ ↓ →Remaining time for the program, play list, title or track	
④	**Soundtrack language** DVD-A DVD-V (➡ page 17)	
⑤	**Subtitle language** DVD-A DVD-V (➡ page 17) **Subtitles on/off** RAM DVD-A DVD-V **Track information on/off** WMA MP3 CD (CD text only) **Picture information** JPEG Full: Group title, picture title, file size, picture size, date of shooting, and camera model used.※ Date: Date of shooting only. OFF: No display. ※Actual displays depend on the camera and conditiion of the data.	
⑥	**Angle number** DVD-A DVD-V	
	Rotating pictures JPEG 0 ⟷ 90⟷180⟷270 ↑ ↑	

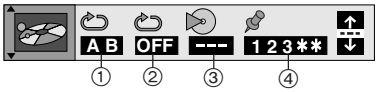
⑦	**Track/picture number in disc** WMA MP3 JPEG	[▲, ▼] ↓ [ENTER]
⑧	**Total number of tracks/pictures on disc** WMA MP3 JPEG	Display only
⑨	**Karaoke vocal on/off** DVD-V (Karaoke DVD only) If a DVD title is a duet, select V1 or V2 to duet with the unit.	
⑩	**Current bitrate (kbps)** **Current sampling frequency (kHz)** WMA MP3	Display only
⑪	**Audio mode** RAM VCD (➡ page 17) LR⟷ L⟷R ↑ ↑	
⑫	**Menu play** VCD (with playback control only)	Display only
⑬	**Still picture number** DVD-A ●To return to page 1 [◄, ►]→Select "Return"→[ENTER]	
⑭	**Slideshow** DVD-A Picture number	Display only
⑮	**Slideshow setting on/off** JPEG	
⑯	**Slideshow timing** JPEG 0 sec–30 sec	

Audio/Subtitle language

ENG: English	SVE: Swedish	CHI: Chinese
FRA: French	NOR: Norwegian	KOR: Korean
DEU: German	DAN: Danish	MAL: Malay
ITA: Italian	POR: Portuguese	VIE: Vietnamese
ESP: Spanish	RUS: Russian	THA: Thai
NLD: Dutch	JPN: Japanese	✳: Others

Unit information

Play menu

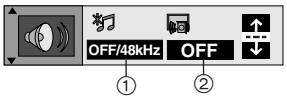


①	**A-B repeat** (➡ page 15) RAM DVD-A DVD-V VCD CD WMA MP3	[ENTER]
②	**Repeat mode** (➡ page 15) RAM DVD-A DVD-V VCD CD WMA MP3 JPEG	

③	**Play mode** (➡ page 16) DVD-A DVD-V VCD CD WMA MP3 ---: Normal play PGM: Program play RND: Random play ALL: All group play (DVD-A)	Display only
④	**Marker** (➡ page 18) RAM DVD-A DVD-V VCD CD WMA MP3 JPEG	

Unit information

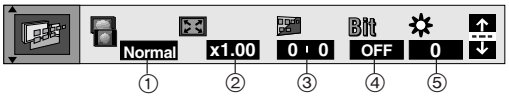
Audio menu

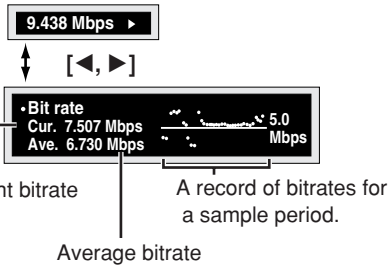


①	**Double re-master** RAM DVD-A DVD-V CD WMA MP3 (➡ page 29)
②	**Dialogue Enhancer on/off** DVD-V **(Discs where the dialogue is recorded in the center channel)** This makes the dialogue in movies easier to hear.

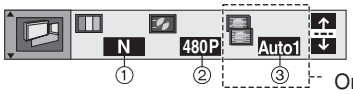
Display menu

e.g.) For Southeast Asia, Australia and N.Z.



①	For Southeast Asia, Australia and N.Z. **4:3 Aspect** RAM DVD-A DVD-V VCD JPEG Select how to show images made for 4:3 aspect screens on a 16:9 aspect television. ●**Normal:** laterally stretches images made for a 4:3 screen. ●**Auto:** expands suitable 4:3 letterbox images to fill more of the screen. Other images appear in full in the center of the screen. ●**Shrink:** images appear in the center of the screen. ●**Zoom:** expands all images to fill the screen. If your television has a similar feature, use it instead for a better effect.
②	**Zoom** RAM DVD-A DVD-V VCD (➡ page 18)
③	**Subtitle Position/Brightness** DVD-A DVD-V ●Position (0 to −60): in 2 unit steps ●Brightness (Auto※/0 to −9) ※The brightness adjusts automatically against the background.
④	**Bitrate display on/off** RAM DVD-A DVD-V VCD During play: shows the bitrate(approximate values) of the video being played While paused: shows the data volume of the frame and type of picture (➡ page 37, Glossary–I/P/B) 
⑤	**OSD brightness** (−3 to +3) Adjust the brightness of the on-screen displays.

Picture menu



Only when "PROGRESSIVE" is on

②③: For Southeast Asia, Australia and N.Z.

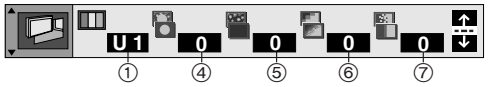
①	**Picture mode** RAM DVD-A DVD-V VCD JPEG ●**N:** Normal mode ●**S:** Soft mode (Soft picture with fewer video artifacts) ●**F:** Fine mode (Details are sharper) ●**C1:** Mellows images and enhances detail in dark scenes ●**C2:** Sharpens images and enhances detail in dark scenes ●**U1/U2/U3:** User mode (➡ below)
②	**Video output mode** RAM DVD-A DVD-V VCD JPEG ●**480I:** Interlace video ●**480P:** Progressive video ("PROGRESSIVE" is on)
③	**Transfer mode** RAM DVD-A DVD-V VCD Select the method of conversion for progressive output to suit the type of material being played. ●**Auto 1 (normal):** for viewing film material ●**Auto 2:** for viewing film material (the same as Auto 1, but able to convert 30-frame-per-second progressive video) ●**Video:** for video material

To change the user mode

1 Select User mode and press [▶] to highlight the number.
2 Press [▲, ▼] to select "1", "2" or "3".

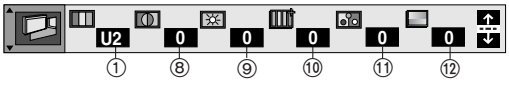
U3: For Southeast Asia, Australia and N.Z.

U1: MPEG D.N.R. (Digital Noise Reduction)



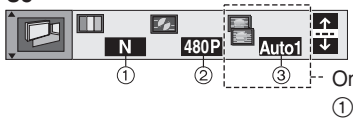
④	**Depth Enhancer** (0 to +4) Reduces the rough noise in the background to give a greater feeling of depth.
⑤	**3D-NR** (0 to +4)**/Dot NR** (On) Reduces overall noise/Reduces the dot noise that occurs at the borders between colors.
⑥	**Block NR** (0 to +3) Smoothes block noise.
⑦	**Mosquito NR** (0 to +3) Reduces the smudging that appears around contrasting sections of the picture.

U2

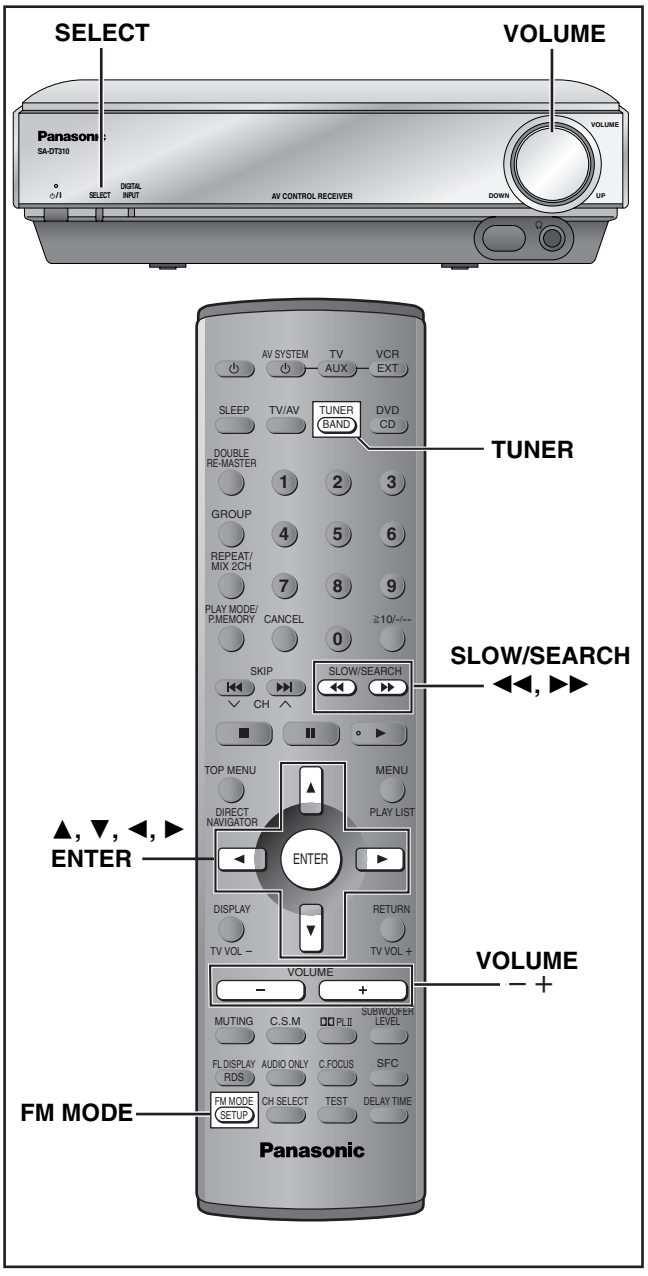


⑧	**Contrast** (−7 to +7) Increases the contrast between light and dark parts of the picture.
⑨	**Brightness** (0 to +15) Brightens the picture.
⑩	**Sharpness** (−7 to +7) Adjusts the sharpness of the edges of the horizontal lines.
⑪	**Color** (−7 to +7) Adjust the shade of the picture's color.
⑫	**Gamma** (0 to +5) Emphasis of outlines.

U3



Only when "PROGRESSIVE" is on
①—③ (➡above)



Manual tuning

1 **Press [TUNER] to select “FM” or “AM”.**

2 **Press [◀◀] or [▶▶] to select the frequency of the required station.**

TUNED: Displayed when a radio station is tuned.
ST: Displayed when a stereo FM broadcast is being received.

TUNED ST

Press and hold [◀◀] or [▶▶] until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.

3 **Adjust the volume.**

■ If noise is excessive in FM

Press [FM MODE] to display “MONO”.

MONO FM 87.50

Press [FM MODE] again to cancel the mode.
The mode is also canceled when you change the frequency.

■ AM frequencyl step For Southeast Asia

Main unit only

The step is factory-set to 9 kHz, but you can change it to receive broadcasts allocated 10 kHz steps.

1 Press [SELECT] to select “AM”.
2 Press and hold [SELECT].
After a few seconds the display changes to show the current minimum frequency. Continue to hold the button down. The minimum frequency changes and the step is changed.

To return to the original step, repeat the above steps.

Note

Any AM frequencies preset in channels will be changed by this procedure. Preset them again.

Preset tuning

Preset channels to make selection simple.
Up to 39 stations can each be set in the FM and AM bands.

Automatic presetting

1 **Tune to “FM 87.50” (➡ left).**

2 **Press and hold [ENTER].**
Release the button when “AUTO MEMORY” appears.

The tuner presets all the stations it can receive into the channels in ascending order.
“SET OK” is displayed when the stations are set. The last station to be set is then played.

3 **Tune to “AM 522” (or “AM 520”).**

4 **Press and hold [ENTER].**

■“ERROR” is displayed

Presetting was unsuccessful. Preset manually.

Manual presetting

1 **Tune to the station (➡ left).**

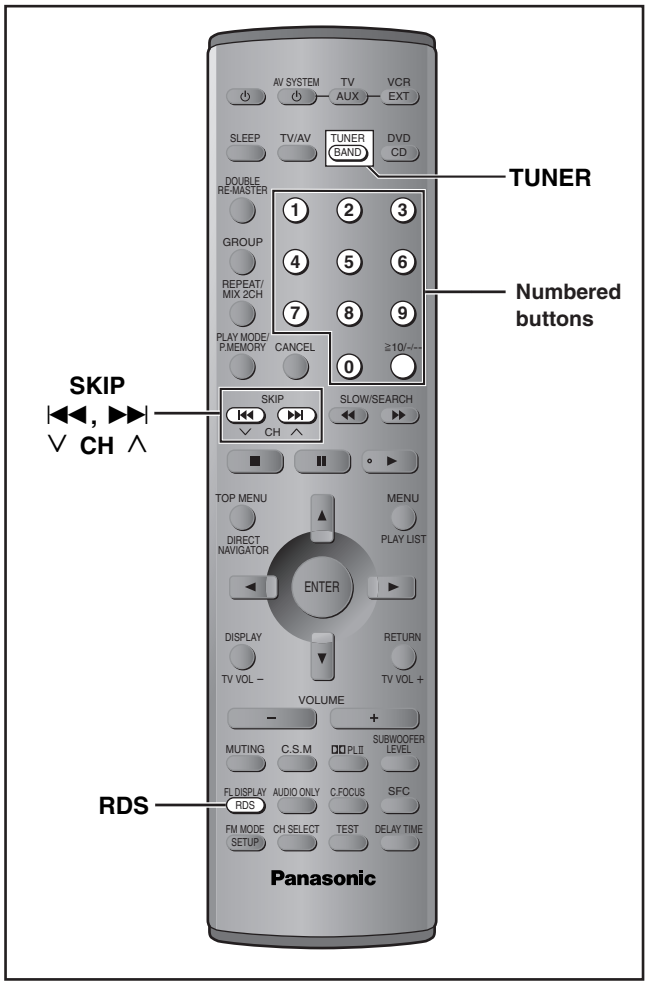
2 **Press [ENTER].**

ME CH

3 **Press [▲,▼] to select a channel.**

4 **Press [ENTER].**

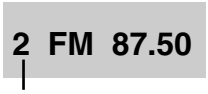
The station occupying a channel is erased if another station is preset in that channel.



Selecting channels

1 Press [TUNER] to select “FM” or “AM”.

2 Press the numbered buttons or [|◀◀, ∨ CH] or [▶▶|, CH∧] to select the channel.



To select a 2-digit number
Example: To select channel 12, press [≧10/-/--] ➡ [1] ➡ [2]

RDS broadcasting

For the United Kingdom, Continental Europe and Russia

The unit can display the text data transmitted by the radio data system (RDS) available in some areas.
If the station you are listening to is transmitting RDS signals, “RDS” will light up on the display.

Displaying the text data

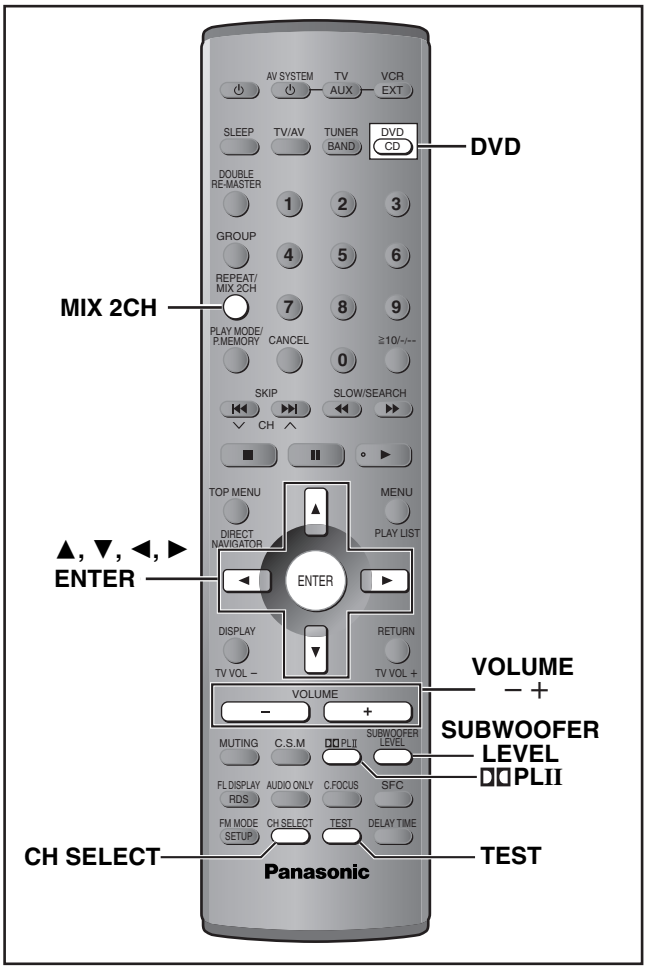
Press [RDS].

Each time you press the button:
PS→PTY→Frequency display

PTY displays			
NEWS	VARIED	FINANCE	COUNTRY
AFFAIRS	POP M	CHILDREN	NATIONAL
INFO	ROCK M	SOCIAL A	OLDIES
SPORT	M.O.R.M※	RELIGION	FOLK M
EDUCATE	LIGHT M	PHONE IN	DOCUMENT
DRAMA	CLASSICS	TRAVEL	TEST
CULTURE	OTHER M	LEISURE	ALARM
SCIENCE	WEATHER	JAZZ	

※“M.O.R.M”= Middle of the road music

Note
RDS displays may not be available if reception is poor.



You may experience a reduction in sound quality when these sound field systems are used with some sources. If this occurs, turn the sound field system off.

Dolby Digital and DTS

- Dolby Digital and DTS are digital encoding systems used on DVD to carry surround sound. Both were originally developed for use in cinemas.
- This unit automatically recognizes and decodes these systems.

Software encoded with Dolby Digital can be identified with this mark.

Software encoded with DTS can be identified with this mark.

Play a Dolby Digital or DTS source.

The Dolby Digital or DTS indicator lights.

■ To down-mix Dolby Digital or DTS (multiple channel) signals to 2 channels

While stopped
Press [MIX 2CH].

MIX 2CH

To cancel, press [MIX 2CH] again.

- During play, pressing and holding the button also turns the setting on and off. (Press and hold again to cancel the setting.)

When "D.MIX" is flashing DVD-A

The DVD-Audio contains multiple-channel signals that cannot be down-mixed.

Dolby Pro Logic II

The Dolby Pro Logic II processor works not only on sources recorded with Dolby Surround, but also on any stereo source.

1 Press [PLII].

Each time you press the button:
MOVIE→MUSIC→OFF

MOVIE: Use this mode when playing movie software, especially video tapes, recorded in Dolby Surround.
MUSIC: Adds surround effects to stereo sources.

2 Play a Dolby Surround or stereo source.

Note
This feature does not work for some discs.

Speaker level adjustments

Adjust the level of the speakers so they are the same apparent level as the front speakers where you would normally be sitting and listening (L, R ➡ below).

Preparation
Press [DVD].

1 While stopped
Press [TEST] to output a test signal.
Lch: Front left
Cch: Center
Rch: Front right
RSch: Right surround
LSch: Left surround

2 Press [VOLUME, +] or [–] to set the volume level normally used for listening.

3 Press [▲] (to increase) or [▼] (to decrease).
C, RS, LS: –6 dB to +6 dB

To stop the test signal, press [TEST] again.

■ To adjust speaker level during play

1 Press [CH SELECT] to select the speaker.
L, Rch→Cch→RSch→LSch→SWch

SWch: Subwoofer

- You can only adjust SWch if the disc includes a subwoofer channel.

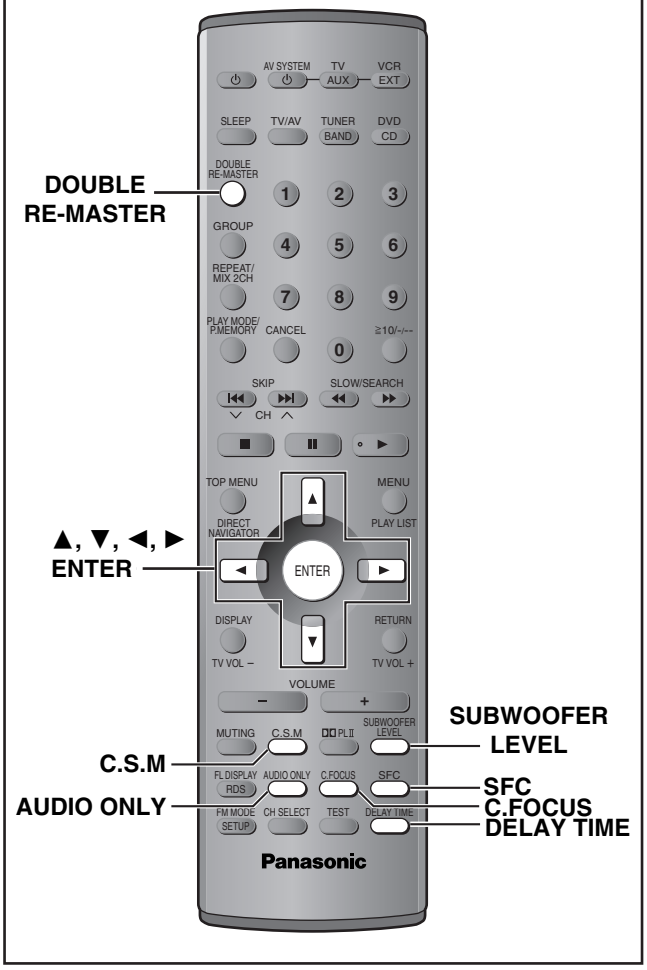
2 Press [▲] (to increase) or [▼] (to decrease).
L, R: (➡ below)
C, RS, LS: –6 dB to +6 dB
SW: –10 dB to +10 dB

Balance

You can adjust the balance of the front speakers.
1 Press [CH SELECT] to select "L" or "R".
2 Press [◄, ►].

- When testing signal, you can also adjust the "L" or "R" balance of the front right and left speakers by pressing [◄, ►].

Note
You can adjust subwoofer level by pressing [SUBWOOFER LEVEL].



Sound Field Control

Press [SFC] to select a setting.

Each time you press the button:

HEAVY: Adds impact to rock.
CLEAR: Clarifies higher sounds.
SOFT: For background music.
HALL: Expands sound to make you feel like you were in a hall.
MANUAL: ➡ below
FLAT: Canceled (no effect is added) (factory preset).

SFC

In MANUAL

You can select LOW, MID, or HIGH, and then adjust them in a range between −3 and +3.

1 Press and hold [SFC] until the setting appears.
2 Press [◄, ►] to select LOW, MID, or HIGH.
3 Press [▲,▼] to choose a level between −3 and +3.

Repeat steps 2 and 3 to adjust the sound quality to your taste.

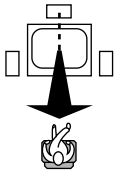
Center Focus

(Discs where the dialogue is recorded in the center channel)

You can make the sound of the center speaker seem like it is coming from within the television.

Press [C.FOCUS].

CF



Each time you press the button:
CENTER FOCUS (ON)⟷OFF

- This will have less effect when Dolby Pro Logic II is turned on.
- This feature does not work for some discs.

Custom Sound Memory — Store the sound settings

DVD-A DVD-V VCD CD

Store the sound settings for a disc so the unit recalls them the next time you play it.

- Number of discs: 30
- Settings: Dolby Pro Logic II, Subwoofer level, Center focus, Sound filed control

■ Storing the settings

1 Make the settings.

2 Press and hold [C.S.M].

CSM

■ Recalling the settings

The unit recalls the settings when you play the disc again.

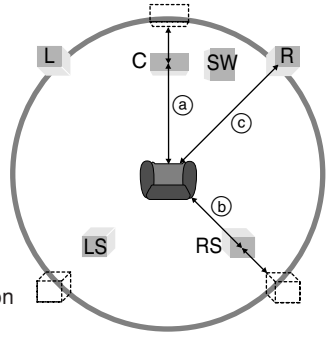
To check the settings

While the CSM indicator is on
Press and hold [C.S.M].
The settings appear for a few seconds each.

- The settings are replaced if you change them.
- When you store settings for a 31st disc, the earliest settings disappear.
- Press [C.S.M] while “CSM” is lit and the settings return to those that were on before you stored the settings.
- Press [C.S.M] while “CSM” is out and you are playing a disc for which you stored settings and those settings are recalled.

Changing the delay time of the AV control receiver

Adjust speaker delay for input from external sources, such as Dolby Digital from a digital receiver or Dolby Pro Logic II from a video cassette player. Adjust the delay time for the DVD/CD player in the SETUP menus (➡ page 33).



1 Press [DELAY TIME].
Each time you press the button
Sch⟷Cch
“Cch” appears only when using the optical cable for receiving Dolby Digital (➡page 34).
2 Press [▲,▼] to adjust.

Values

If distance ⓐ or ⓑ is greater than or equal to distance ⓒ, set to “0”.
If distance ⓐ or ⓑ is less than distance ⓒ, set as follows.

ⓐ **Center speaker (When Dolby Digital is being received)**

Difference	Setting
15–45 cm	1 ms
46–75 cm	2 ms
76–105 cm	3 ms
106–135 cm	4 ms
136–165 cm	5 ms

ⓑ **Surround speakers**

Difference	Setting
75–225 cm	5 ms
226–375 cm	10 ms
376–525 cm	15 ms

When you change the surround speaker setting for Dolby Digital, the setting also changes for Dolby Pro Logic II.
E.g., the setting for MUSIC is the same as that for Dolby Digital.

Dolby Digital		0 ms	5 ms	10 ms	15 ms
Dolby Pro Logic II	MOVIE	10 ms	15 ms	20 ms	25 ms
	MUSIC	0 ms	5 ms	10 ms	15 ms

Adjusting the bass

Press [SUBWOOFER LEVEL].

SUB W 1

Each time you press the button:
SUB W 1→SUB W 2→SUB W 3→SUB W 4→SUB W 0

0 : 0 dB
1 : +3 dB
2 : +5 dB
3 : +8 dB
4 : +10 dB

Turning the subwoofer off

Press and hold [SUBWOOFER LEVEL].

SUB W OFF

Each time you press and hold the button:
SUB W OFF←→ SUB W ON

Double re-master — Enjoying more natural sound

RAM DVD-A DVD-V CD

Discs recorded with 2-channel LPCM at 44.1 kHz or 48 kHz
This feature gives you a more natural sound by adding higher frequency signals not recorded on the disc.

WMA MP3

Discs recorded at 44.1 kHz or 48 kHz
This feature reproduces the frequencies lost during recording to give you a sound closer to the original.

During play

Press [DOUBLE RE-MASTER].

DOUBLE RE-MASTER indicator on the DVD/CD player lights up.

Each time you press the button:

Setting	RAM DVD-A DVD-V CD Type of music	WMA MP3 Effect level
1	High tempo (e.g., pops and rock)	Light
2	Various tempos (e.g., jazz)	Medium
3	Low tempo (e.g., classical)	Strong
OFF	off	off

- This doesn't work if input is "DVD OPT1".

To enjoy even higher quality sound —AUDIO ONLY

RAM DVD-A DVD-V VCD CD WMA MP3

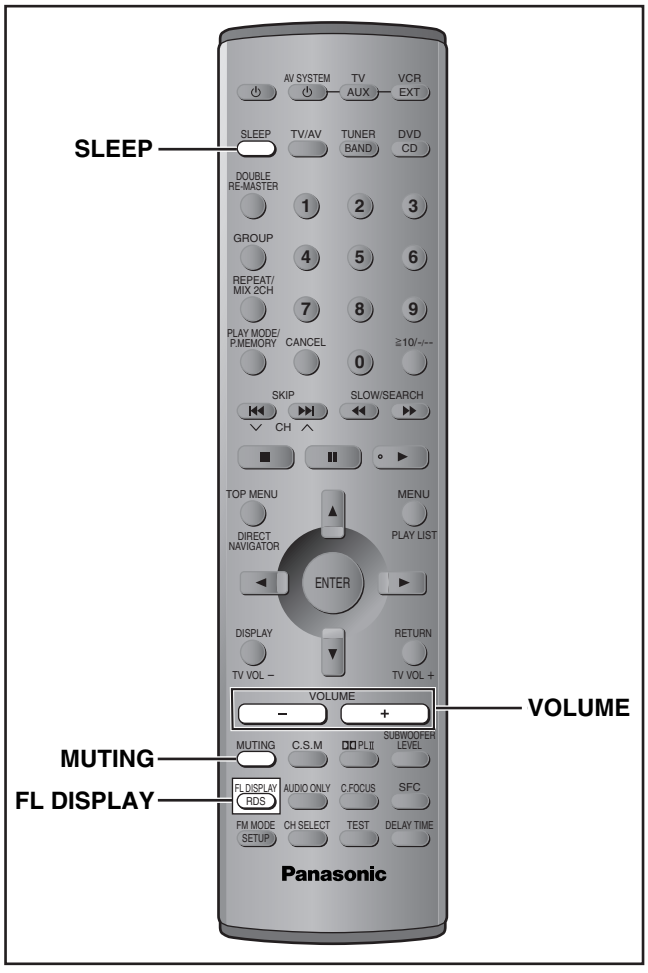
You can enjoy higher quality audio by stopping the video signal.

Press [AUDIO ONLY].

- AUDIO ONLY is canceled if you press [AUDIO ONLY] again or turn the unit off.

Note

- Video signals are output while the disc is stopped and when operations such as searching are performed. The television screen can appear unusual while video signals are not being output.
- The television may be distorted when video signals are turned on and off when you turn AUDIO ONLY on and off, but this is not a malfunction.



Muting the volume

Press [MUTING].

-MUTING-

Volume is reduced to minimum.

To cancel

Press [MUTING] again or reduce the volume to minimum (–– dB), then raise it to the required level.

Muting is also canceled when you switch the unit to standby.

Turning off the display

The display is turned off for better television viewing.

Press [FL DISPLAY].

To cancel, press [FL DISPLAY] again.

- This does not work while listening to the radio.

The sleep timer

This timer turns the unit off after a set time.

Press [SLEEP] to select the time (minutes).

SLEEP

Each time you press the button:

SLEEP 30 → SLEEP 60 → SLEEP 90 → SLEEP OFF ← SLEEP 120 ←

To cancel the timer

Press [SLEEP] to select “SLEEP OFF”.

To check the SLEEP setting

Press [SLEEP] once.

- The time remaining appears.

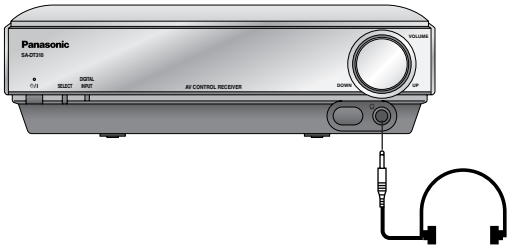
To change the setting

Press [SLEEP] to display the remaining time, then press again to select the required time.

Using headphones

1 Reduce the volume and connect the headphones (not included).

Headphone plug type: 3.5 mm stereo



2 Adjust headphone volume with [VOLUME].

Audio is automatically switched to stereo (2-channel).

Note

- Dolby Pro Logic II, Center Focus and Subwoofer Level adjusting cannot be used if headphones are connected.
- Avoid listening for prolonged periods of time to prevent hearing damage.

Changing settings

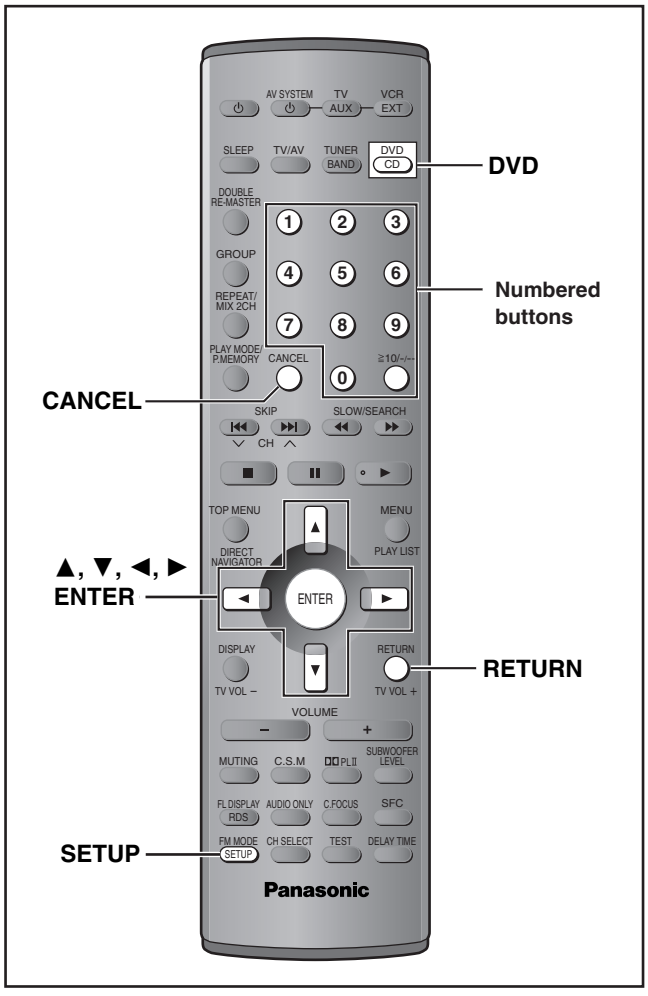
This chart shows the settings for this unit. Change the settings to suit your preferences and to suit the unit to the environment in which it is being used. These settings are retained in memory until they are changed, even if the unit is turned off. See page 32 for details on menu operation.

●Underlined items are the factory preset.

Menus	Items	Options
Disc	**Audio** Choose the preferred audio language.	※1English French German Italian Spanish Portuguese Swedish Dutch Original Other∗∗∗∗ ※2English Chinese Original Other∗∗∗∗ Original: The original language of each disc will be selected. Other∗∗∗∗: Input a code number with the numbered buttons (➡ page 33).
	Subtitle Choose the preferred subtitle language.	※1Automatic English French German Italian Spanish Portuguese Swedish Dutch Other∗∗∗∗ ※2Automatic English Chinese Other∗∗∗∗ Automatic: If the language selected for "Audio" is not available, subtitles of that language will automatically appear if available on that disc.
	Menus Choose the preferred language for disc menus.	※1English French German Italian Spanish Portuguese Swedish Dutch Other∗∗∗∗ ※2English Chinese Other∗∗∗∗
	Ratings (➡ page 33) Set a ratings level to limit DVD-Video play. ●The password screen is shown if you choose levels 0 to 7 or if you choose "Ratings" when levels 0 to 7 have been selected. ●Select "Level 0" to prevent play of discs that do not have ratings levels recorded on them.	**Setting ratings (When level 8 is selected)** 8 No Limit : All DVD-Video can be played. 1 to 7: Prohibits play of DVD-Video with corresponding ratings recorded on them. 0 Lock All: Prohibits play of all DVD-Video. **Changing ratings (When level 0–7 is selected)** Unlock Player Change Level Change Password Temporary Unlock
Video	**TV Aspect** (➡ page 11) Choose the setting to suit your television and preference.	4:3 Pan&Scan 4:3 Letterbox 16:9
	TV Type (➡ page 11) Select to suit the type of television.	Standard (Direct View TV) CRT Projector LCD TV/Projector Projection TV Plasma TV
	Still Mode Specify the type of picture shown when paused.	Automatic Field Frame
	NTSC Disc Output Choose whether PAL 60 or NTSC signals are output during playback of NTSC discs (➡ page 5).	PAL60: when connected to a PAL television. NTSC: when connected to an NTSC television. (For Southeast Asia: "NTSC" is the factory preset.)
Audio	**Speaker Setting** (➡ page 33) Set the delay time for your center and surround speakers.	Multi-channel Center: 0/1.3/2.6/3.9/5.3 ms Surround(L/R): 0/5.3/10.6/15.9 ms
	Dynamic Range Compression (Dolby Digital only) Change the dynamic range for late night viewing.	Off On: For clear dialog when listening at low volume.
	Audio during Search Choose whether to have sound during search.	On Off ●This feature dose not work for some discs.
Display	**Menu Language** Choose the preferred language for these menus and the on-screen messages.	※1English Français Deutsch Italiano Español Português Svenska Nederlands ※2English 中文
	On-Screen Messages Choose whether to show on-screen messages or not.	On Off
Others	**HighMAT** Play HighMAT discs as HighMAT discs, or as regular WMA/MP3/JPEG discs. (Reload the disc for the setting to be effective.)	Enable: Play HighMAT discs as HighMAT discs. Disable: Play HighMAT discs as regular WMA/MP3/JPEG discs.
	Mixed disc — Audio & Stills Select the type of file played on discs containing both JPEG and WMA/MP3. (Reload the disc for the setting to be effective.)	Audio (MP3/WMA) Stills (JPEG)
	DVD-Video Mode Select how to play pictures contained on some DVD-Audio. The setting returns to "Off" when you remove the disc, turn the unit off or change the source.	Off: DVD-Audio are played as DVD-Audio. On: DVD-Video contents found on DVD-Audio can be played.
	QUICK SETUP (➡ page 11) Answer questions to make basic settings.	Yes (Menu language, Audio language, Subtitle language, TV type, TV aspect) No

※1For the United Kingdom, Continental Europe, Russia, Australia and N.Z.

※2For Southeast Asia

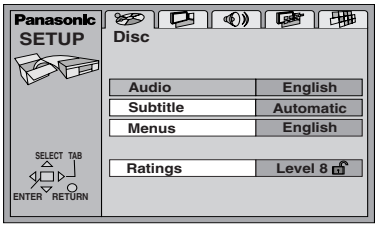


Common procedures

See page 31 for menu and option details.

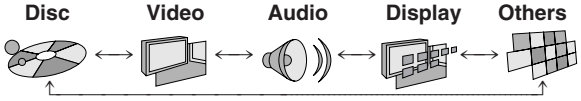
Preparation
Press [DVD].

1 Press [SETUP] to show the menus.



2 Press [◄, ►] to select the menu's tab.

The screen changes to display the menu.



3 Press [▲,▼] to select the item you want to change and press [ENTER].

4 Press [▲,▼,◄,►] to select the option and press [ENTER].

The screen now shows the menu again.

To return to the previous screen
Press [RETURN].

When you are finished
Press [SETUP].

Entering a password (Ratings)

DVD-V

The password screen is shown when you select levels 0 to 7.

1 Input a 4-digit password with the numbered buttons and press [ENTER].
- If you enter a wrong number, press [CANCEL] to erase it before you press [ENTER].
- The lock symbol appears closed to show the rating is locked.
- **Do not forget your password.**

2 Press [ENTER] to confirm the 4 digits.

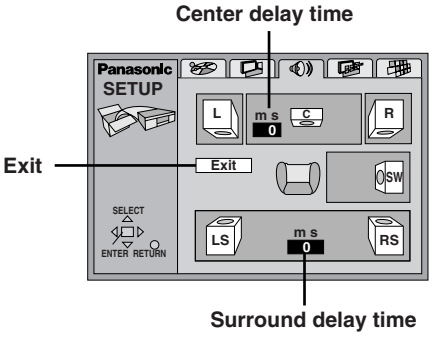
Now, when you insert a DVD-Video that exceeds the ratings limit you set, a message appears on the television.
Follow the on-screen instructions.

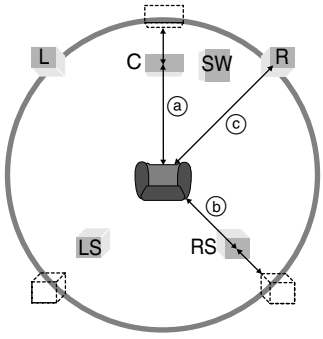
Changing the delay time of the DVD/CD player

DVD-V

(Center and surround speakers only)

For optimum listening with 5.1-channel sound, all the speakers, except for the subwoofer, should be the same distance from the seating position. If you have to place the center or surround speakers closer to the seating position, adjust the delay time to make up for the difference.





1 Press [▲,▼,◄,►] to select the delay time box and press [ENTER].

2 Press [▲,▼] to adjust the delay time and press [ENTER].

Values

If distance ⓐ or ⓑ is greater than or equal to distance ⓒ, set to "0".
If distance ⓐ or ⓑ is less than distance ⓒ, set as follows.

ⓐ Center speaker

Difference	Setting
Approx. 50 cm	1.3 ms
Approx. 100 cm	2.6 ms
Approx. 150 cm	3.9 ms
Approx. 200 cm	5.3 ms

ⓑ Surround speakers

Difference	Setting
Approx. 200 cm	5.3 ms
Approx. 400 cm	10.6 ms
Approx. 600 cm	15.9 ms

When you are finished

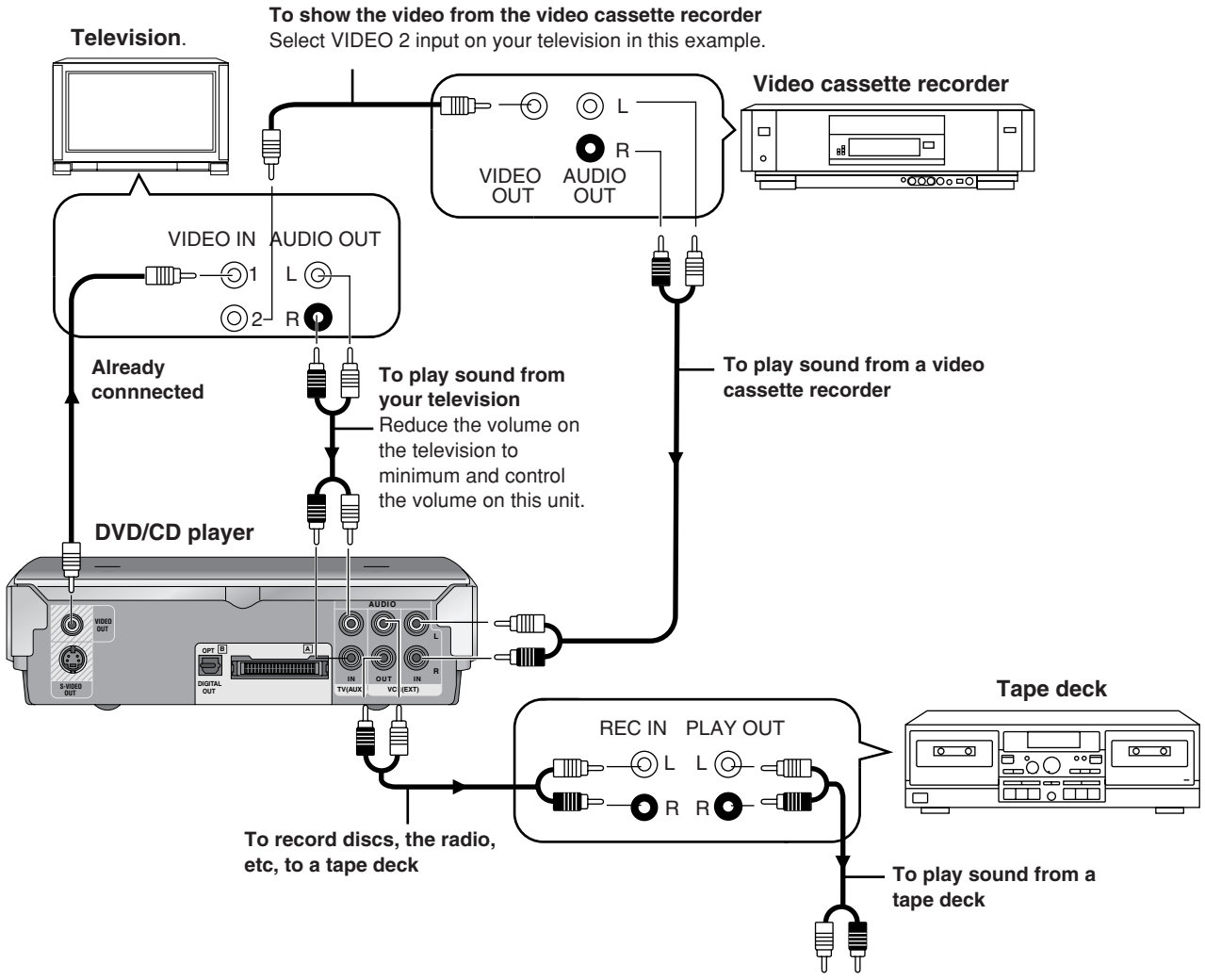
Press [▲, ▼, ◄, ►] to select "Exit" and press [ENTER].

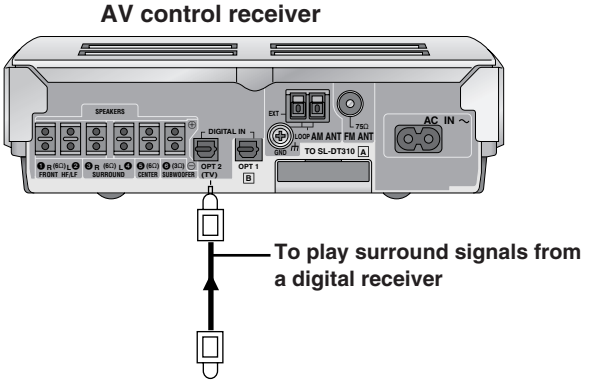
Language code list

Abkhazian:	6566	Chinese:	9072	Hausa:	7265	Lithuanian:	7684	Romanian:	8279	Telugu:	8469
Afar:	6565	Corsican:	6779	Hebrew:	7387	Macedonian:	7775	Russian:	8285	Thai:	8472
Afrikaans:	6570	Croatian:	7282	Hindi:	7273	Malagasy:	7771	Samoan:	8377	Tibetan:	6679
Albanian:	8381	Czech:	6783	Hungarian:	7285	Malay:	7783	Sanskrit:	8365	Tigrinya:	8473
Ameharic:	6577	Danish:	6865	Icelandic:	7383	Malayalam:	7776	Scots Gaelic:	7168	Tonga:	8479
Arabic:	6582	Dutch:	7876	Indonesian:	7378	Maltese:	7784	Serbian:	8382	Turkish:	8482
Armenian:	7289	English:	6978	Interlingua:	7365	Maori:	7773	Serbo-Croatian:	8372	Turkmen:	8475
Assamese:	6583	Esperanto:	6979	Irish:	7165	Marathi:	7782	Shona:	8378	Twi:	8487
Aymara:	6588	Estonian:	6984	Italian:	7384	Moldavian:	7779	Sindhi:	8368	Ukrainian:	8575
Azerbaijani:	6590	Faroese:	7079	Japanese:	7465	Mongolian:	7778	Singhalese:	8373	Urdu:	8582
Bashkir:	6665	Fiji:	7074	Javanese:	7487	Nauru:	7865	Slovak:	8375	Uzbek:	8590
Basque:	6985	Finnish:	7073	Kannada:	7578	Nepali:	7869	Slovenian:	8376	Vietnamese:	8673
Bengali; Bangla:	6678	French:	7082	Kashmiri:	7583	Norwegian:	7879	Somali:	8379	Volapük:	8679
Bhutani:	6890	Frisian:	7089	Kazakh:	7575	Oriya:	7982	Spanish:	6983	Welsh:	6789
Bihari:	6672	Galician:	7176	Kirghiz:	7589	Pashto, Pushto:	8083	Sundanese:	8385	Wolof:	8779
Breton:	6682	Georgian:	7565	Korean:	7579	Persian:	7065	Swahili:	8387	Xhosa:	8872
Bulgarian:	6671	German:	6869	Kurdish:	7585	Polish:	8076	Swedish:	8386	Yiddish:	7473
Burmese:	7789	Greek:	6976	Laotian:	7679	Portuguese:	8084	Tagalog:	8476	Yoruba:	8979
Byelorussian:	6669	Greenlandic:	7576	Latin:	7665	Punjabi:	8065	Tajik:	8471	Zulu:	9085
Cambodian:	7577	Guarani:	7178	Latvian, Lettish:	7686	Quechua:	8185	Tamil:	8465		
Catalan:	6765	Gujarati:	7185	Lingala:	7678	Rhaeto-Romance:	8277	Tatar:	8484		

Connection example

Ensure the power is off when connecting the cables.


Television.
To show the video from the video cassette recorder
Select VIDEO 2 input on your television in this example.
Video cassette recorder
L
R
VIDEO OUT
AUDIO OUT
VIDEO IN
AUDIO OUT
1
2
L
R
Already connnected
To play sound from your television
Reduce the volume on the television to minimum and control the volume on this unit.
To play sound from a video cassette recorder
DVD/CD player
Tape deck
REC IN
PLAY OUT
To record discs, the radio, etc, to a tape deck
To play sound from a tape deck
Connect to VCR (EXT) IN on this unit.



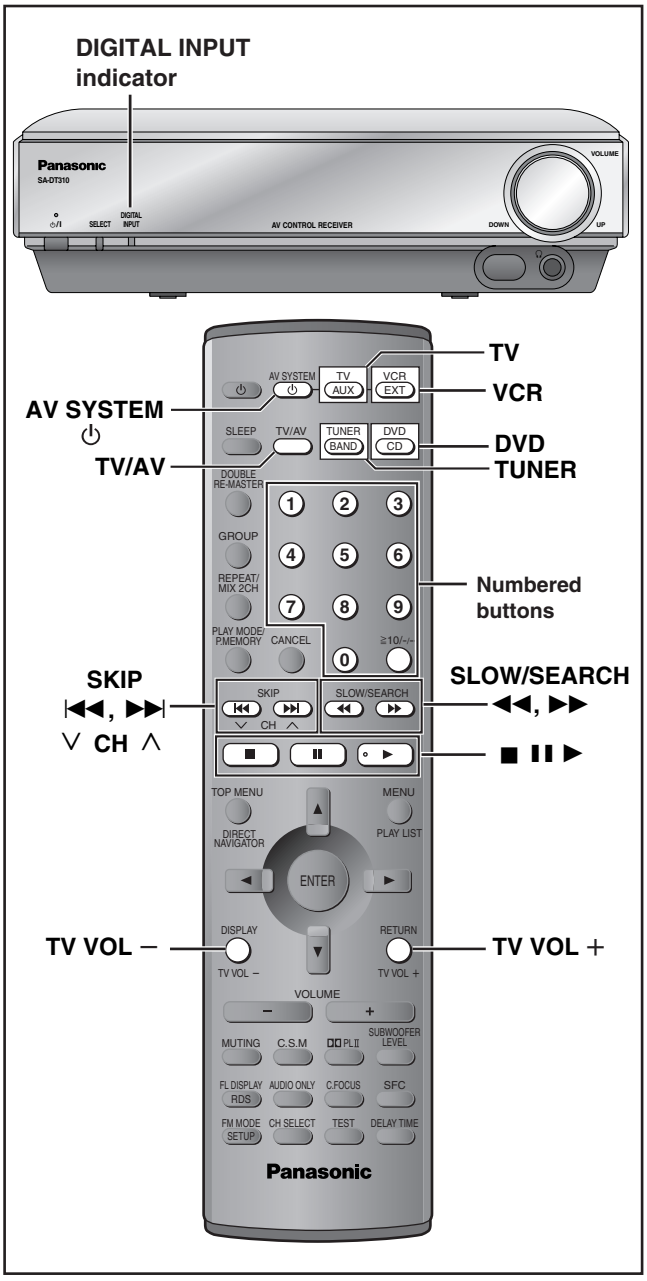
Audio cable (not included)

Video cable (not included)

Optical cable (not included)

► **Signal flow**

Other functions



Operating a television

Preparation

- Face the remote control at this unit and press [TV]. You can now operate the television.
- Face the remote control at the television for the following operations.

Turning the television on/off
Press [⏻ AV SYSTEM].

Switching the television's video input mode
Press [TV/AV].

Changing channels
Press [⏮, ∨ CH] or [⏭, CH ∧].

- You can also use the numbered buttons.

Adjusting the volume
Press [TV VOL +] or [TV VOL −].

Operating a video cassette recorder

Preparation

- Face the remote control at this unit and press [VCR]. You can operate the video cassette recorder.
- Change the video input mode on the television ("VIDEO 2" in the example).
- Face the remote control at the video cassette recorder for the following operations.

Turning the video cassette recorder on/off
Press [⏻ AV SYSTEM].

Play, pause and stop
Press [▶], [❚❚] or [■].

Fast forward and rewind
Press [◀◀] or [▶▶].

You can connect a laser disc or record player instead of a video cassette recorder.
Connect as shown left and select "VCR" as the source.

When connecting a record player

- We recommend using a record player with a built-in phono equalizer. If your player doesn't have a built-in equalizer, connect it first to a separate equalizer and then connect that to this unit.
- You cannot record input through TV OPT2 to other equipment.

Operating the tape deck or digital receiver

Listening to the tape deck

Press [VCR] to select "VCR" as source.

Recording to the tape deck

1

- **Disc**

Press [DVD] to select "DVD".

- **The radio**

Press [TUNER] to select "FM" or "AM".

2 Start recording and play.

Listening to the surround signals from a digital receiver

This unit can decode the surround signals received through digital broadcasts. Refer to your satellite receiver's operating instructions for details.

1 Press [TV] to select "TV OPT2".
DIGITAL INPUT indicator lights up.

2 Operate the digital receiver.

For your reference
In rare cases, the unit may have trouble recognizing the PCM signals on CDs, which may cause the beginning of a track to be cut off. Engage PCM FIX if this occurs.

While "TV OPT2" is selected, press and hold [TV].
The mode switches each time you do this
AUTO⟷PCM FIX
The unit cannot process other signals while PCM FIX is on.
This may cause noise to be output.
Select "AUTO" if this occurs.

Optional antenna connections

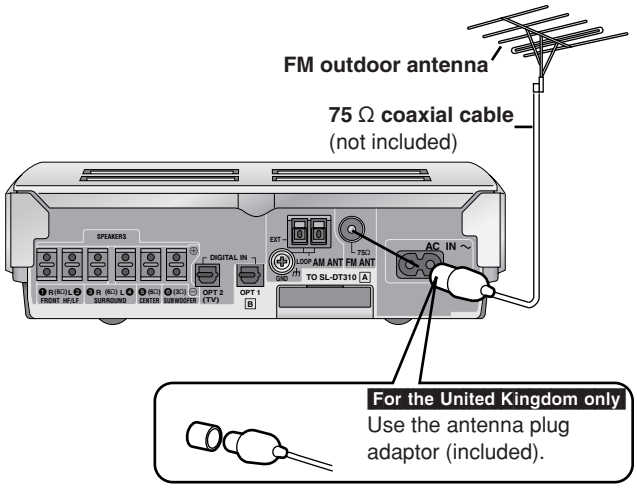
Use outdoor antennas if radio reception is poor.

Note

Disconnect the outdoor antenna when the unit is not in use.
Do not use the outdoor antenna during an electrical storm.

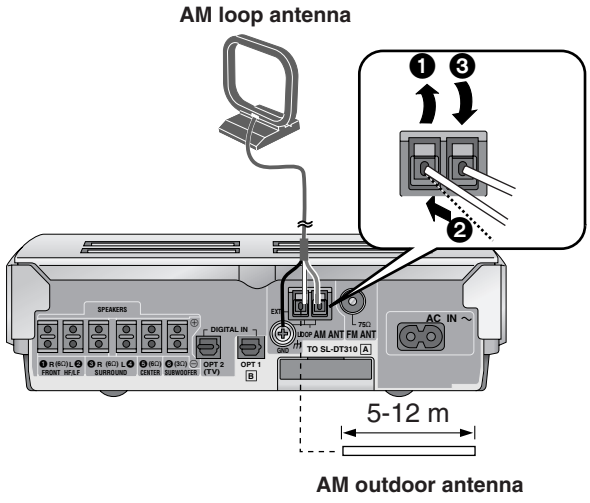
FM outdoor antenna (Using a television antenna)

- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.



AM outdoor antenna (Using a vinyl wire)

Run a piece of vinyl wire horizontally across a window or other convenient location.
Leave the loop antenna connected.



Safety precautions

Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.
Do not place heavy items on the unit.

Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.
Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.
Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.
Do not handle the plug with wet hands. This can cause electric shock.

Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.
Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.
Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

Glossary

Decoder
A decoder restores the coded audio signals on DVDs to normal. This is called decoding.

Dolby Digital
This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be multi-channel audio. A large amount of audio information can be recorded on one disc using this method.

DTS (Digital Theater Systems)
This surround system is used in many movie theaters around the world. There is good separation between the channels, so realistic sound effects are possible.

Dynamic range
Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.

Film and video
DVD-Videos are recorded using either film or video. Usually, film is recorded at 24 frames per second, the rate movies are filmed at, while video is recorded at 30 frames per second.

Frame still and field still
Frames are the still pictures that go together to make a moving picture. There are about 30 frames shown each second.
One frame is made up of two fields. A regular television shows these fields one after the other to create frames.
A still is shown when you pause a moving picture. A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high.
A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

Interlace and progressive output
NTSC, the video signal standard, has 480 interlaced (I) scan lines, whereas progressive scanning uses twice the number of scan lines. This is called 480P. The video signals output from this unit's COMPONENT VIDEO OUT terminals (Y, P_B, P_R) allow you to enjoy higher quality pictures than if the signals were output from the VIDEO OUT terminal or S VIDEO OUT terminal.

I/P/B
MPEG 2, the video compression standard adopted for use with DVD-Video, codes frames using these 3 picture types.
I: Intra coded picture
This picture has the best quality and is the best to use when adjusting the picture.
P: Predictive coded picture
This picture is calculated based on past I or P-pictures.
B: Bidirectionally-predictive coded picture
This picture is calculated by comparing past and future I and P-pictures so it has the lowest volume of information.

Linear PCM (pulse code modulation)
These are uncompressed digital signals, similar to those found on CDs.

Playback control (PBC)
If a Video CD has playback control, you can select scenes and information with menus.

Maintenance

To clean this unit, wipe with a soft, dry cloth.
- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

Before moving the unit, ensure the disc tray is empty. Failure to do so will risk severely damaging the disc and the unit.

Troubleshooting guide (Reference pages are shown as black circled numbers ❾.)

Before requesting service, make the below checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, consult your dealer for instructions.

Power

No power.	●Insert the AC mains lead securely into the household mains socket. ❾
The unit is automatically switched to the standby mode.	●The unit was switched to standby by the sleep timer. ㉚

Operation

No response when buttons pressed.	●Some operations may be prohibited by the disc. ●The unit may not be operating properly due to lightning, static electricity or some other external factor. **Reset procedure:** Press [⏻] to switch the unit to the standby mode and then back to ON. Alternatively, press [⏻] to switch the unit to the standby mode, disconnect the AC mains lead, and then reconnect it.
No operations can be performed with the remote control.	●Check the batteries are installed correctly. ❾ ●The batteries are depleted: Replace them with new ones. ❾ ●Point the remote control at the remote control sensor and operate.
Play doesn't start (or stops immediately) when you press [▶] (play).	●Condensation has formed: Wait 1 to 2 hours for it to evaporate. ●This unit cannot play discs other than the ones listed in these operating instructions. ❺ ●You can only play DVD-Video if their region number is the same or includes the same region number as the unit or if the DVD-Video is marked "ALL". Confirm the region number for the unit on the rear panel. ❶ ●The disc may be dirty and may require cleaning. ❺ ●Ensure that the disc is installed with the label of the side to be played facing upwards. ⓭ ●Check that the DVD-RAM has something recorded on it.
Cannot select alternative language. No menu play.	●This function is dependent on software availability. ●Try selecting from the disc's menu if one is available. ⓮
No subtitles.	●This function is dependent on software availability. ●Subtitles are cleared from the television. Display the subtitles. ⓱
The position of the subtitles is incorrect.	●Change the position of the subtitles with "Subtitle Position" in the GUI screen. ㉔
Soundtrack and/or subtitle language is not the one selected with the SETUP menus.	●This function is dependent on software availability.
Cannot change the angle.	●This function is dependent on software availability. Even if a disc has a number of angles recorded, these angles may be recorded for specific scenes only.
The SETUP menu cannot be accessed.	●Select "DVD" as the source. ●Cancel all group, program and random play. ⓰
Cannot add markers.	●You cannot add markers while playing a play list or if the disc's play time doesn't appear on the unit's display.
There are already markers. RAM	●The unit reads and displays the markers added with a DVD vido recorder. You can clear them but reappear when you switch the unit to standby, change the source, or open the disc tray.
Marker numbers I added are different when I call them up. RAM	●The unit numbers markers by time so they change when you add and delete them.
Cannot select random or program play.	●You cannot select random or program play with some DVD-Video.
Folders deeper than the eighth layer on a data CD are not displayed correctly.	●Folders deeper than the eighth layer are displayed as the eighth layer.
You have forgotten your ratings password. Reset all the SETUP settings to Factory Preset.	●While stopped and "DVD" is the source, press and hold [■] on the unit and [≧10/-/--] on the remote control for about 3 seconds until "Initialized" disappears from the television. Turn the unit off and on again. All settings will return to the default values.
The unit doesn't play the data type (WMA/MP3 or JPEG) selected in "Mixed disc—Audio & Stills" in the SETUP menu.	●Reload the disc for the setting to be effective.Press [⏏] to open the tray, then press [▶] (play) to start play.
Cannot eject disc.	●The unit may not operate properly if the disc is damaged or dirty. Press [⏻] and after the display disappears, wait a few seconds, then press [⏻] again and eject the disc.

Sound

No sound. **Distorted sound.**	●Check the connections. ❼ ●Turn the volume up. ●Turn muting off. ㉚ ●Switch off the unit, determine and correct the cause, then switch the unit on. Causes include: –Shorting (bare wires touching) of positive and negative speaker wires. –Using speakers with an impedance lower than that rated for this unit. –Straining of the speakers through excessive volume or power. –Using the unit in a hot environment without proper ventilation.

Sound

Humming heard during play.	●An AC mains lead or fluorescent light is near the cables. Keep other appliances and cords away from this unit's cables.
No sound from the subwoofer.	●Check that the subwoofer has not been set to "SUB W OFF". 29

Picture

Picture distorted.	●Some distortion is normal during SEARCH. ●The screen may be disrupted briefly when you turn on and off the AUDIO ONLY feature. 29
No picture.	●Check the connection. 8 ●Make sure the television is on. ●Ensure the television's video input setting (e.g., VIDEO 1) is correct.
The picture shown on the television is not normal. (The sides of the picture are cut off, the picture is stretched horizontally or black bands appear at the top and bottom of the screen.)	●Go to Video in the SETUP menus, and change "TV Aspect" to suit your television. 31 ●Use the television to change the aspect to the correct one. **For Southeast Asia, Australia and N.Z.** **If your television cannot change the aspect,** try changing 4:3 Aspect with the GUI screen. 24 ●Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder. ●Change the size with the variable zoom function. 18
Picture quality is poor.	●Check the settings in the GUI screen's Picture menu. 24
The picture on the television disappears or stripes appear on the screen.	●The location and orientation of the antenna are incorrect. If you are using an indoor antenna, change to an outdoor antenna. 36 ●The television antenna wire is too close to the unit. Move the antenna wire of the television from the unit.
Menus not displayed correctly.	●Change the zoom ratio to "×1.00". 18 ●With the GUI screen, change "Subtitle Position" to "0". 24 ●**For Southeast Asia, Australia and N.Z.** With the GUI screen, change "4:3 Aspect" to "Normal". 24

Listening to the radio

Noise is heard. **"ST" flickers or doesn't light.** **Sound is distorted.**	●Adjust the position of the FM or AM antenna. ●Use an outdoor antenna. 36 ●When receiving an AM broadcast, press [SETUP] and select "MODE A" or "MODE B".
A beat sound is heard.	●Turn the television off or move it away from the unit.
A low hum is heard during AM broadcasts.	●Move the antenna away from other cables and cords.
The correct AM frequency can't be tuned in.	●Change the frequency step. Press [SELECT] to select "AM", then press and hold [SELECT] for 10 seconds to change the step to suit your area. 25

Unit displays

This unit's display is off.	●Press [FL DISPLAY] to turn the display on. 30
"NO PLAY"	●You inserted a disc the unit cannot play; insert one it can. 5 ●You inserted a blank DVD-RAM.
"NO DISC"	●You haven't inserted a disc; insert one. ●You haven't inserted the disc correctly; insert it correctly. 13
"F61" (The unit powers down thereafter)	●The audio cable was removed or inserted while the power was on and the volume was on high, or there was a speaker cable short. If the problem is not solved by turning the power back on, there is a power supply problem. Consult your dealer.
"DVD U11"	●The disc is dirty. Wipe it clean. 5
"ERROR"	●Incorrect operation performed. Read the instructions and try again.
"DVD H□□" □□ stands for a number.	●Trouble is likely to have occurred. The number following "H" depends on the status of the unit. **Reset procedure:** Press [⏻] to switch the unit to the standby mode and then back to ON. Alternatively, press [⏻] to switch the unit to the standby mode, disconnect the AC mains lead, and then reconnect it. ●If the service numbers fail to clear, note the service number and contact a qualified service person.

Television displays

No on-screen display.	●Go to Display in the SETUP menus, and select "On" for "On-Screen Messages". 31
GUI screens not displayed or only partially displayed on the television.	●Press [▲, ▼] while the rightmost icon is highlighted to move them down. 22
The disc's menu is displayed in a different language.	●Go to Disc in the SETUP menus, and select the preferred language for "Menus". 31

Specifications (DIN 45 500)

AV CONTROL RECEIVER

■ Amplifier section

Power output
(For the United Kingdom, Australia, N.Z. and Southeast Asia : 240V)

RMS power output (THD 10 %)	
FRONT (1 kHz both channel driven)	2×60 W
SURROUND (1 kHz both channel driven)	2×60 W
CENTER (1 kHz)	60 W
SUBWOOFER (100 Hz)	100 W
DIN power output (THD 1.0 %)	
FRONT (1 kHz both channel driven)	2×48 W
SURROUND (1 kHz)	2×48 W
CENTER (1 kHz)	48 W
SUBWOOFER (100 Hz)	80 W
Load impedance	
FRONT, SURROUND, CENTER	6 Ω
SUBWOOFER	3 Ω

■ Pre amplifier section

Input terminal	DVD (OPT1), TV (OPT2)

■ FM tuner section

Frequency range	87.50–108.00 MHz (50 kHz step)
Antenna terminals	75 Ω (unbalanced)

■ AM tuner section

Frequency range	522–1629 kHz (9 kHz step)
For Southeast Asia only	520–1630 kHz (10 kHz step)

■ Headphone

Jack type	3.5 mm STEREO
Load impedance	16–32 Ω

■ GENERAL

Power supply	
For the United Kingdom, Australia and N.Z.	AC 230–240 V, 50 Hz
For Continental Europe and Russia	AC 230 V, 50 Hz
For Southeast Asia	AC 220–240 V, 50/60 Hz
Power consumption	60 W
Standby condition	0.7 W
Dimensions (W×H×D)	197×70.9×368 mm
Mass	2.5 kg

DVD/CD PLAYER

■ Disc played

DVD-RAM (DVD-VR compatible) , DVD-Audio
DVD-Video, DVD-R(DVD-Video compatible)
CD(CD-DA), Video CD
CD-R/RW(CD-DA, Video-CD formatted discs)
MP3/WMA

- Maximum number of tracks and groups recognizable: 999 tracks and 99 groups
- Compatible compression rate:
  MP3: between 32 kbps and 320 kbps
  WMA: between 48 kbps and 192 kbps

JPEG

- Exif Ver 2.1 JPEG Baseline files
- Maximum number of pictures and groups recognizable: 3000 pictures and 300 groups
- Picture resolution: between 320×240 and 6144×4096 pixels (Sub sampling is 4:2:2 or 4:2:0)

HighMAT Level2 (Audio and Image)

■ Audio

Number of channels	5.1(FL, FR, SL, SR, C, SW)

■ Video

Signal system	PAL, PAL60/NTSC
Output terminal	RCA terminal (composite video) S terminal (Y, C)
For Australia, N.Z. and Southeast Asia	Progressive scan RCA terminal (component video)

■ Pickup

Beam source	Semiconductor laser
Wavelength	658/790 nm

■ Pre amplifer section

Input terminal	VCR (EXT), TV (AUX)
Output terminal	VCR (EXT), DVD (OPT)

NORSK

■ Pickup

Bølgelengde	658/790 nm
Laserstyrke	Ingen farlig stråling sendes ut

■ GENERAL

Dimensions (W×H×D)	197×70.9×346 mm
Mass	2.0 kg

FRONT SPEAKER

Type	2 way, 2 speaker, Closed
Speaker(s)	
Woofer	12 cm cone type
Tweeter	2.5 cm semi-dome type
Impedance	6 Ω
Input power	60 W (Music)
Sound pressure level	81 dB/W (1.0 m)
Crossover frequency	4.5 kHz
Frequency range	40 Hz–50 kHz (−16 dB) 50 Hz–45 kHz (−10 dB)
Dimensions (W×H×D)	161×289×283 mm
Mass	3.3 kg

CENTER, SURROUND SPEAKER

Type	1 way, 1 speaker, Bass reflex
Speaker(s)	
Woofer	6.5 cm cone type
Impedance	6 Ω
Input power	60 W (Music)
Sound pressure level	79 dB/W (1.0 m)
Frequency range	110 Hz–25 kHz (−16 dB) 130 Hz–22 kHz (−10 dB)
Dimensions (W×H×D) (CENTER)	126×123×121 mm
(SURROUND)	90×140×121 mm (included speaker stand)
Mass	0.8 kg

SUBWOOFER

Type	1 way, 1 speaker, Bass reflex
Speaker	
Woofer	17 cm cone type
Impedance	3 Ω
Input power	100 W (Music)
Sound pressure level	80 dB/W (1.0 m)
Frequency range	43 Hz–500 Hz (−16 dB) 48 Hz–400 Hz (−10 dB)
Dimensions (W×H×D)	160×393×343 mm
Mass	4.7 kg

Note

1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

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Web Site: http://www.panasonic.co.jp/global/

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